

ESTIMATES COMMITTEE (1973-74)

(FIFTH LOK SABHA)

FIFTY-SIXTH REPORT

MINISTRY OF IRRIGATION AND POWER—"POWER"

[Action taken by Government on the recommendations contained in the Thirty Ninth Report of Estimates Committee (Fifth Lok Sabha) on the Ministry of Irrigation and Power—"Power"]



**LOK SABHA SECRETARIAT
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Corrigenda

To

The 56th Report of the E.C. (5th Lok Sabha) on the Action Taken by Government on the recommendations contained in the 39th Report of E.C. (5th Lok Sabha) on the Ministry of Irrigation and Power - Power.

<u>Page</u>	<u>Para</u>	<u>Line</u>	<u>For</u>	<u>Read</u>
(vii)	1	5	After 'Power add "-Power"	
2.	4	10 from bottom	Anaudpur	Anandpur
12.	-	2-3	Ministry of I&P O.M.No. 26(46)/73-ELI dated commi- ssioned.	First Unit of Badarnur Thermal Station has since been commissioned.
23	-	5	'Comments'	'Committee'
51	1(2)	1	Iddike	Iddiki
52		2	Iddki	Iddiki
54		21	Th	The
56		6	Work	World
63		12	'on'	'for'
64		6-7	For line 6	<u>read</u> line 7
			For line 7	<u>read</u> line 6
77		2	'power economy'	'Power Economy Committee'
132		Col.5	For 'beirg'	'being'

132

Col.5 against line 2 for reporter
Bokaro read report.
Thermal
Exten.

col.5 against Line 2 for projeer
of Faizkka read project.
statement Thermal

134

24 Delete the line under the
word "below:-"

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(1973-74)

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13. Shri P. A. Saminathan
14. Shri Awdesh Chandra Singh
15. Shri M. G. Uikey

INTRODUCTION

I, the Chairman of the Estimates Committee, having been authorised by the Committee, present this 56th Report of the Estimates Committee on action taken by Government on the recommendations contained in the 39th Report of Estimates Committee (Fifth Lok Sabha) on the Ministry of Irrigation & Power.

2. The 39th Report of Estimates Committee (Fifth Lok Sabha) was presented to the Lok Sabha on the 30th April, 1973. Government furnished their replies indicating action taken or proposed to be taken on the recommendations contained in the Report on the 2nd November, 5th November and 4th December, 1973. The replies were examined by Study Group 'F' of the Estimates Committee (1973-74) at their sitting held on the 25th March, 1974.

3. The draft Report was adopted by the Estimates Committee (1973-74) on the 2nd April, 1974.

4. The Report has been divided into the following Chapters.

- I. Report;
- II. Recommendations which have been accepted by Government;
- III. Recommendations which the Committee do not desire to pursue in view of Government's replies;
- IV. Recommendations in respect of which replies of Government have not been accepted by the Committee.
- V. Recommendations in respect of which final replies of Government are still awaited.

5. An analysis of the action taken by Government on the recommendations contained in the 39th Report of Estimates Committee (Fifth Lok Sabha) is given in Appendix II. It would be observed therefrom that out of 191 recommendations made in the Report, 172 recommendations, i.e. 90 per cent have been accepted by Government. The Committee do not desire to pursue 15 recommendations i.e. 8 per cent in view of the Government's reply. The Committee

have not accepted the reply of the Government in respect of 1 recommendation i.e. 0.5 per cent. Final replies of Government to 3 recommendations i.e. 1.5 per cent have not yet been furnished to the Committee.

NEW DELHI;
April 16, 1974.
Chaitra 26, 1896 (S).

R. K. SINHA,
Chairman,
Estimates Committee.

CHAPTER I

REPORT

Power Shortages

Recommendation (Sr. No. 1) Para 1.12

The Estimates Committee had in paragraph 1.3 of their 39th Report (Fifth Lok Sabha) on the Ministry of Irrigation and Power—Power observed that as against the target of 23 million kw to be attained by the end of the Fourth Plan, the generating capacity would be only 20 million kw resulting in a shortfall of 3 to 3.5 million kw which would entail a loss of about 25 per cent in the production of industries and agriculture and utilities amounting to a tremendous loss to the economy of the country. The Committee had expressed great concern about the acute power shortage in the country which has been responsible for retarding the development of the country's economy both in the industrial and agricultural sectors.

2. In reply, Government have stated that they share the concern of the Estimates Committee about power shortage and have added that the following steps are already being taken to overcome the shortages:—

- (i) The utilisation of existing power installation is being maximised by monitoring and arranging for supply and transport of coal and fuel oil, spare parts, etc.
- (ii) The programme of inter-State lines and setting up of load-despatch stations is being expedited.
- (iii) Efforts are being made to expedite the commissioning of the generating units which are in an advanced stage of construction.
- (iv) Exchange of power between neighbouring States is encouraged so as to achieve optimum utilisation of generating capacity and minimise the requirements of reserves.

3. The Committee note the steps being taken by Government to overcome the shortages in power supply. They would, however, stress that in view of the continuing power crisis, concerted measures should be taken to overcome the power shortages and continuous watch kept to remedy the bottlenecks in power generation.

Power Projects|Schemes

Recommendation (Sr. No. 8) Para 2.61 .

4. The Committee had, in para 2.61 of their 39th Report observed that a number of Power Projects|Schemes in various regions were pending approval of the Planning Commission. The Committee had expressed concern over the slow progress in according the approval by the Planning Commission as most of the projects had already been accepted by the Advisory Committee of the Commission as far back as 1971 and 1972.

5. In reply, Government stated that the observations of the Committee had been brought to the notice of the Planning Commission and that they were contemplating to accord sanction to all the projects required to yield benefits during the Fifth Plan period, by the end of 1973.

4. The Committee desired to know the latest position with regard to the finalisation of the various projects.

Government in their reply, have furnished the following information indicating the latest position of these schemes:

Name of Region	State	Name of the Projects	Target in 5th Plan MW	Remarks
1	2	3	4	5
Northern Region	Punjab	Shanan Hydro Extn.	30	The inter-state aspects have to be resolved before according the sanction of these projects.
		Anandpur Sahib	27.5	Do.
		U.B.D.C. Extn.	45	Do.
		Mukerian H.E. Scheme	14	The scheme is being rec'g'd.
	Himachal Pradesh	Bassi Extn. (Hydro)	15	The inter state aspects have to be resolved before according the sanction of these projects.

1	2	3	4	5
Western Region	Madhya Pradesh	Korba Thermal Extn. II	220	The project report has been received only recently and is under examination.
Eastern Region	Bihar	Patratu Thermal Extn. II	220	A new scheme approved by TA C ¹ awaiting the sanction by Planning Commission.
		Barauni Thermal Extn. II	110	Pending sanction because of Coal linkage.
		Tenughat	200	Approval of Planning Commission awaited.
		Durgapur Thermal Extn.	200	Approval of Planning Commission awaited.
		Bokaro Thermal Extn.	200	Revised project report for 2x110 MW is still awaited.
		Parakka Thermal	110	A New scheme for which project report is awaited.
North Eastern Region	Assam	Namrup Thermal Extn.	30	Approval of Planning Commission is awaited.
		Chandrapura Thermal	30	Revised Project report received recently and is under examination.

7. The Committee are concerned to note that though Government had stated that the Planning Commission were contemplating to accord sanction to all the projects included to yield benefit in the Fifth Plan period by the end of 1973, *none of the various schemes listed by Government has been sanctioned by the Planning Commission so far.

8. The Committee take a serious view of the delay in the finalisation of the Scheme/Projects included for yielding benefit during the Fifth Plan period. The main reasons for the slow progress in the finalisation of the Schemes/Projects have been attributed to the

*At the time of factual verification Government have intimated that two schemes have since been sanctioned by the planning Commission.

inter-State aspects and recasting of certain schemes. The Committee feel that as most of the Schemes were accepted by the Advisory Committee of the Planning Commission about two years ago, the present state of affairs in regard to their finalisation exhibits lack of proper coordination and sense of urgency at various levels.

9. The Committee would, therefore, strongly urge that vigorous and effective steps should be taken to ensure that the inter-State aspects are resolved expeditiously and the Schemes/Projects pending approval of the Planning Commission are finalised without further delay.

Implementation of Recommendations

10. The Committee would like to emphasise that they attach the greatest importance to the implementation of the recommendations accepted by Government. They would, therefore, urge that Government should keep a close watch so as to ensure expeditious implementation of the recommendations accepted by them. In cases where it is not possible to implement the recommendations for any reason, the matter should be reported to the Committee with reasons for non-implementation.

11. The Committee also desire that further information where called for in respect of recommendations included in Chapters II and III and V of the Report may be intimated to the Committee expeditiously.

CHAPTER II

RECOMMENDATIONS THAT HAVE BEEN ACCEPTED BY GOVERNMENT

.. Recommendation (S. No. 1 Para 1.12)

The Committee feel greatly concerned about the acute power shortage in the country which has been responsible for retarding the development of the country's economy both in the industrial and agricultural sectors.

Reply of Government

The observation is noted. The Government share the concern of the Estimates Committee about the Power shortage.

The following steps are already being taken to overcome the shortages:—

1. The utilisation of existing power installations is being maximised by monitoring and arranging for supply and transport of coal and fuel oil, spare parts, etc.
2. The programme of inter-State lines and setting up of load-despatch stations is being expedited.
3. Efforts are being made to expedite the commissioning of the generating units which are in an advanced stage of construction.
4. Exchange of power between neighbouring States is encouraged so as to achieve optimum utilisation of generating capacity and minimise the requirements of reserves.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Comments of the Committee

Please see para 3 of the Report (Chapter I)

Recommendation (S. No. 2 Para 1.13)

The Committee are perturbed over the State of helplessness exhibited by the Ministry in regard to solving the problem of power

shortage in the country. They would, therefore, urge that the problem calls for immediate attention and recommend that a crash programme for meeting the power shortage should be devised at the highest level so that the development of the country's economy both in the industrial and agricultural fields may proceed and progress unhampered and uninterrupted.

Reply of Government

In line with the recommendation for dealing with the problems of Power Sector at the highest level, the Centre has set up a Group of Ministers on Power for looking into the problems relating to the Power Sector both on short-term as well as on long-term perspective and take necessary action for overcoming the power shortage to the extent feasible and take action on medium and long-term plans for avoiding power shortages in future. As a result of the studies made through expert bodies and considered by the Group of Ministers, a sum of Rs. 30 crores was made available for expediting eight projects with a view to bring them into operation as early as possible. Similar steps are being taken during 1973-74. Spare parts and expert personnel have been arranged for carrying out repairs to the damaged plant and equipment and for restoring units to their rated generation capacity. The short-term measures are aimed at expediting work on power projects with a view to bring them into operation at the earliest and to stabilise the output from the existing capacity and maximise benefits from them.

As regards crash programme for meeting the power shortage, the industrial units were permitted to import standby diesel generating sets and instal them as captive generating units. Guideline have been given to rationalise Power Supply in the States with a view to minimise the harmful effects of power shortage in the national economy. With the of the hydel resources following monsoon rains the power supply position has improved considerably in all the States except Uttar Pradesh, Tamil Nadu and Kanadah.

During the Fourth Plan period addition of capacity is expected to be of the order of 4.58 m.kW. Although the Fifth Plan is yet to be finalised, the addition of capacity being planned over the Fifth Plan period is likely to be of the order of 16 m.kW. Compared to the addition during the Fourth Plan period the task during the Fifth Plan period is ambitious and calls for efforts and management of very high order for achieving these targets.

All possible efforts are being made to step up operational efficiency of existing plants by judicious scheduling for overhauls, com-

pleting overhaul and repair works more speedily, stricter control on periodic maintenance, improvements in salaries/service conditions of operating personnel etc.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Recommendation (S. No. 3 Para 2.24)

The Committee note that Badarpur Thermal Power Project was sanctioned in the year 1967-68 at an estimated cost of Rs. 39.95 crores. The revised cost of the Project had been estimated at about Rs. 55 crores. The increase has been attributed to a number of factors such as increase in the cost of boilers and Turbo Generators sets obtained from the indigenous manufactures (Rs. 925 lakhs), increase in the price of other plant and equipment (Rs. 300 lakhs), Civil Works (Rs. 200 lakhs), land acquisition (Rs. 36 lakhs) and design and engineering (Rs. 37 lakhs). The estimate though drawn up in 1965 was sanctioned in 1967.

Reply of Government

The Committee's observation has been noted. (Also please refer to para 2.26).

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 4 Para 2.25)

The Committee further note that in the case of indigenous equipment the prices given by the manufacturers are usually the budgetary prices and not firm prices, and that delay in the completion of the project had further escalated the cost.

Reply of Government

The Committee's observation has been noted. (Also please refer to para 2.26).

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 6 Para 2.27)

The Committee note that delay in the execution of the project had been mainly attributed to delay in according administrative approval, delay in construction of the main power house building due to non-availability of the matching structural steel, contractors

not adhering to the target dates of completion, delay in supply of plant and equipment, delay in the construction of railway siding and general shortage of scarce materials like cement, steel etc.

Reply of Government

The Committee's observations have been noted. To obviate similar difficulties, some Directorates in the Central Water and Power Commission have been assigned the job of monitoring the progress of construction projects and bringing to the notice of the Government all the bottlenecks and hold-ups for appropriate remedial action. It is proposed to instal an adequate information system and set up a well equipped monitoring organisation to monitor the progress of the power projects during the Fifth Five Year Plan for prompt corrective action. Also two expert groups, one for hydro and one for thermal have been appointed in the Ministry of Irrigation and Power for monitoring the progress in Power Project under construction.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 7 Para 2.28)

The Committee are distressed to note the manner in which the execution of the project, which was taken up under the direct control of the Centre had been planned right from the beginning (1967). Cost of equipment alone supplied by the indigenous manufacturers had escalated the cost to the extent of Rs. 925 lakhs. There had been a year's delay in the completion of the Railway siding with the result that the equipment had to be transported by road. The Committee are constrained to observe that there had been complete lack of coordination among the various authorities concerned which could have been avoided with better planning and proper consultation to achieve better results and savings in expenditure.

Reply of Government

The observations of the Committee have been noted.

Necessary steps have since been taken to ensure proper coordination among the various authorities concerned. A reference is also requested to the reply in regard to item 6, para 2.27.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendations (S. Nos. 8 and 9 Paras 229 and 230)

The Committee are unhappy over the unsatisfactory performance of the National Building Construction Corporation, National Projects Construction Corporation and Hindustan Housing Factory who had been awarded the contracts for undertaking the civil works in relation to the requirements of the project. There had been slippage from the original schedule. Considerable delays in the construction of civil works nullified the targeted acceleration of the project and escalated the cost. It is strange that the works awarded to these public undertakings were delayed for periods between 13 to 30 months. The Committee would like the Government to examine the question of taking action under the penal clauses of the agreements entered into with these undertakings and apprise them of the result of action taken in the matter.

The Committee also regret to note that M/s. Bharat Sewak Samaj who were also awarded the contract for civil works delayed the civil works by 16 months and were granted as many as 15 extensions of time. The Committee would urge what in this case also Government may examine the question of taking suitable action under the penal clauses of the agreement entered into with the Bharat Sewak Samaj.

Reply of Government

The details for the delay and the action proposed to be taken in respect of these contractors are detailed briefly as under:—

I. Foundation of Main Building, Auxiliary Building and C.W. ducts etc. by M/s. N.B.C.C.

The work has by and large been completed.

The contractor has represented that the delay in completion of work was due to the following main reasons:—

1. Increase in estimated quantity and works executed outside the scope of contract.
2. Power failures.
3. Extra rock-excavation than anticipated in tender.
4. Restriction of using milder charges of blasting in place of gelatine detonators.

The question of taking suitable action under the penal clauses of the agreement taking into account the reasons put forward by the

3803 LS—2.

contractor is under examination. The final payment of the contractor will be released only after a decision on this matter is taken.

II. *Manufacture, Supply and Erection of pre-cast elements by M/s. H.H.F.*

The contractor has represented that the period of work has been prolonged due to increase in quantities and due to revision of drawings in some cases. Since the progress of works was not quite satisfactory the Ministry of Works and Housing was requested from time to time to direct M/s. H.H.F. to expedite the progress of their works. This has resulted in some improvement. However, the question of taking action under the penal clauses of the agreement is also being examined.

III. *Civil works for coal handling plant, water treatment plants etc. by M/s. N.B.C.C.* ..

In this case the contractor had been given various extensions from time to time reserving our right to levy liquidated damages under the penal clauses of the contract. The work has by and large been completed. The contractor has represented stating that the major portion of the delay is not attributable to them on the ground that the scope of work and the quantities have substantially changed. They have also put in claims for payment of enhanced rates in respect of work already done by them. The entire matter is under consideration of a sub-committee appointed for this purpose. The final payments of the contractor will be cleared only after the recommendations of the sub-committee are received and decisions taken thereon.

IV. *Levelling operation, construction of drainage channel and roads by M/s. B.S.S.*

The reasons for delay in completing the work have been attributed by M/s. B.S.S., among other things, to the following factors:—

- (i) some of the working areas were not completely made available to them as the same could not be acquired in time;
- (ii) the standing crops in certain areas has blocked taking up their work;
- (iii) execution of extra quantities work;

The question of taking suitable action under the penalty clauses:

of the agreement is under examination. The final payment will be released only after the decision thereon is taken.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Further information called for by the Committee

Please intimate the final decision taken by Government with regard to action against the contractors under the penalty clauses of the agreement.

(Lok Sabha Sectt. O.M. No. 5[13|1|ECII|73, dated 1-1-1974.)

Further reply of Government

The question of taking suitable action under penal clauses of the agreements entered into with the undertakings (namely National Building Construction Corporation, the National Project Construction Corporation and the Hindustan Housing Factory) is being examined and the final payments will be released only after a final decision is taken in this regard by the competent authority.

The case of M/s. Bharat Sevak Samaj has since been examined and it is observed that the delay was not attributable solely to the contractor and that the final extension had been granted without levy of any penalty.

[Ministry of Irrigation and Power O.M. No. 32(46)/73-E.L.I. dated 15-1-1974.]

Comments of the Committee

The Committee would like to be apprised of the final action taken under penal clauses of the agreement entered into with M/s. National Building Construction Corporation and the Hindustan Housing Factory.

Recommendation (S. No. 10 Para 2.31)

The Committee note that the first unit of the project is likely to get into commercial operation by July/August, 1973 as against the target of 1971-72. The Committee hope that Government would take effective steps to ensure that the target now set for the commissioning of the first unit would be adhered to .

Reply of Government

[Ministry of Irrigation and Power O.M. No. 26 (46) /73-E.L.I. dated commissioned.

[Ministry of Irrigation and Power O.M. No. 26 (46) /73-E.I.I. dated 2-11-1973]

Recommendation (S. No. 11 Para 2.32)

The Committee during an informal visit to Badarpur Project were informed of the difficulties which were being experienced by the project authorities in the day to day working of the project for want of adequate financial powers. The Committee recommend that the existing schedule of delegation of the powers to the Chief Executive of the project should be reviewed in detail in consultation with the Chief Executive of the project, Ministry of Finance, etc. so as to ensure that he has adequate powers for delivering the goods.

Reply of Government

Following the discussions held by the Estimates Committee with the Badarpur Thermal Power Project authorities in August, 1972, the question of delegation additional financial powers to the Chief Project Engineer and other officers was reviewed. As a result thereof additional financial powers have been delegated to the Project officers in regard to:—

- (i) waiver of the conditions of security deposit for purchases.
- (ii) acceptance of negotiated or single tender contract.
- (iii) sanction for substitution of items of supply/erection.
- (iv) cent per-cent advance payment to local firms for supplies and
- (v) grant of extension of time beyond the period stipulated for the execution of contracts.

The question of delegation of further powers is under examination.

[Ministry of Irrigation and Power O.M. No. 26 (46) /73-E.L.I. dated 4-12-1973.]

Recommendation (S. No. 14 Para 2.32)

The Committee are surprised that the projects were taken up without ensuring that the infrastructure (viz. roads, bridges etc.)

was there and that the estimates were prepared on the presumption that certain approach roads would be there resulting in inflation of project cost. This again goes to show lack of proper planning and coordination between the Centre and the State Governments concerned.

Reply of Government

The difficulty of infrastructure (namely roads, bridges etc.) has arisen in the case of Baira Siul Project in Himachal Pradesh. The original project estimates were prepared by the State Government and no provision for the improvement/construction of roads and bridges was made in those estimates. The construction of roads and bridges is a State subject and at the time of commencement of the project, it was expected that the State Government would be providing the necessary road facilities. But Himachal Pradesh Government have expressed their inability to improve the roads and bridges to the requires specification in the time required to meet project needs for want of funds. However, the suggestion given by the Committee has been noted and due care will be taken while examining such cases and preparing estimates for the projects in future.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 15 Para 2.53)

The Committee are also unhappy to note that the first unit of the Baira Siul Project which was originally scheduled to be commissioned in 1974 has been delayed for a year and is now expected to be commissioned in 1975. They, however, hope that the revised target would be adhered to and that there is no further postponement.

Reply of Government

All efforts are being made to commission the first unit in 1975 as per the revised schedule.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 16 Para 2.54)

The Committee would like the Government to impress upon the State Government concerned to expedite the completion of the ap-

proach roads and bridges and also to take positive measures to ensure that the first unit of the Project is commissioned according to the revised schedule.

Reply of Government

The matter regarding the improvement of access roads for Baira Siul Project has been engaging attention of the Government and formal as well as informal negotiations with the authorities concerned in the State Government to expedite completion/improvement of the roads/bridges have been continuing. The suggestion of the Committee has been noted for compliance.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 19 Para 2.63)

The Committee note that in the case of most of the power projects at present under execution the civil works are either progressing or are nearing completion. The Committee would, however, like to stress that the progress of these projects should be closely watched and effective measures taken wherever necessary to remove the bottlenecks with a view to ensuring the completion of the projects according to schedule.

Reply of Government

Please see reply against Serial No. 6 (Para 2.27). The progress of the projects will be closely monitored and prompt action taken to overcome any bottlenecks.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 20 Para 2.64)

The Committee would also like to emphasise that in respect of the projects on which work is yet to start, effective steps should be taken to ensure that the work on these projects is also taken up without further delay so that they are commissioned according to the schedule.

Reply of Government

Plan for increasing the installed generating capacity to about 35 million kW at the end of the Fifth Plan is formulated. This plan comprises power generating schemes, which could yield benefits

during the Fifth Plan to the extent of about 16 million kW. Out of these, schemes totalling 13.7 million kW capacity are already under construction or have been authorised for construction. All efforts are being made to clear the remaining schemes which would yield benefits during the Fifth Plan at the earliest and in any case by the end of this year.

Advance action on these projects, especially placing of orders for plant and equipment, is also being arranged.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Recommendation (S. No. 21) Para 2.66

The Committee note that fifty-nine schemes with an aggregate installed capacity of 13.55 MKW in various regions are currently under examination by the Central Water and Power Commission at various stages. Most of these schemes were referred to the Central Water and Power Commission more than 3 years ago. The Committee cannot appreciate the slow progress in examining these schemes. The Committee would, therefore, strongly urge that, in view of the general power shortage in the country, effective steps should be taken to ensure that the schemes in question are finalised without further delay, as a scheme normally takes five to seven years for execution.

Reply of Government

The urgency of the matter as stressed by the Estimates Committee is appreciated and accepted.

So far, 120 power generation schemes for the Fifth Five Year Plan envisaging installation of an aggregate generating capacity of 28.70 million KW at a total estimated cost of Rs. 5118 crores have been received by the Central Water and Power Commission. Out of this, 92 schemes involving installation of 20.7 million KW at an estimated cost of Rs. 3554 crores have been examined by the Commission and the balance 28 schemes involving installation of 8.0 million KW at a total estimated cost of Rs. 1564 crores are currently under examination.

As regards the balance 38 schemes involving installation of 9.7 million KW at a total estimated cost of Rs. 1600 crores, these have been examined by the Central Water and Power Commission and their comments have been forwarded to the concerned project authorities with the request the furnish additional details and/or modified

estimates of cost or revised scheme reports. Further action in processing these scheme would be taken on receipt of the replies and/or modified estimates from the concerned project authorities. As rightly stressed by the Estimates Committee and also earlier by the Power Economy Committee it is essential to ensure that the schemes are technically sound and well conceived and the estimates, realistic. This necessitates careful scrutiny and occasionally back references to the States which take time. Every effort is however being made to expedite the project scrutiny ensuring at the same time that standard and quality of the scrutiny are not diluted. The concerned Directorates of Central Water and Power Commission are proposed to be strengthened adequately for the purpose.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 2-11-1973]

Comments of the Committee

The Committee would urge that finalisation of the remaining 38 power generating schemes should be expedited.

Recommendation (S. No. 22) Para 2.73

The Committee note that 12 new schemes with a total capacity of 6910 MW are expected to be taken up by Government during the Fifth Plan period. The Committee hope that in view of the fact that it takes several years for a scheme to get commissioned, advance planning action in regard thereto would be taken expeditiously so as to ensure that the schemes/projects are commissioned according to schedule.

Reply of Government

So far 30 new generation schemes with an aggregate installed capacity of 6987 MW, estimated to cost a total of Rs. 1200.80 crores have been approved by the Planning Commission for implementation under the Fifth Five Year Plan. Necessary steps are being taken with a view to ensure that these schemes are commissioned according to schedule.

The observations of the Estimates Committee have been noted. As emphasised by the Estimates Committee, advance planning action for new hydro-electric projects would be expedited.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Recommendations (S. No. 23) Para 2.74.

The Committee feel that it is imperative that all the new power generation schemes proposed for implementation in the Fifth Plan are formally got sanctioned by the Planning Commission expeditiously and necessary funds for advance action made available during 1973-74 for all these schemes. The Committee need hardly emphasise the need for continuous sanction of the schemes as the piling and bunching of orders would make it difficult for the indigenous manufacturing plants to manufacture and supply the plant and equipment in time for the different projects and would inevitably result in need for more imports of plant and equipment which would mean a drain on foreign exchange which has to be avoided at all costs.

Reply of Government

Please refer to item No. 18 (Para No. 2.61).

The State Electricity Boards have been advised to place the orders on the indigenous manufacturers for the supply of plant and equipment well in advance so that the piling and bunching of the orders do not occur.

Funds for advance action are being made available where possible. In the absence of these, possibilities of HEIL/BHEL accepting orders for plant without payment of advances and Government finding necessary working capital for BHEL/HEIL are also being examined. The target for Fifth Five Plan has been fixed at 35.4 million kW out of which 33.4 million kW have been sanctioned by the Planning Commission.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. No. 24) Para 3.44

The Committee note that the Fourth Five Year Plan envisaged augmentation of installed power generating capacity from 14.3 million KW to 23.1 million KW. They are, however, deeply concerned to find that there is likely to be a shortfall to the tune of about 3.5 million KW during the Fourth Plan period.

Reply of Government

It is regretted that there would be a shortfall to the tune of about 3.5 million KW during the Fourth Plan Period, which is mainly due to delay in delivery of plant and equipment by manufacturers, and delay in construction work at site which is due to shortages of

essential materials like steel and cement, paucity of funds, labour troubles and other causes. Every effort is being made to bring the gap narrower.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 2-11-1973]

Recommendation (S. No. 25) Para 3.45

The Committee are distressed to note that none of the power plans had achieved the targets envisaged. The First Plan was designed to add 1.40 MKW of power, the second 3.48 MKW, the third 7.04 MKW, the three annual plans (1966—69) 6.88 MKW and the first three years (1969—72) of the Fourth Plan 4.18 MKW. The actual achievement during the plan periods was 1.12 MKW, 2.73 MKW, 4.52 MKW, 4.12 MKW and 2.60 MKW, which works out a shortfall percentage of 20, 36, 35, 38 and 37 respectively.

Reply of Government

The observations of the Committee is noted. All possible efforts are being made to expedite the commissioning of the on-going projects. The following measures are also being taken.

- (i) According sanction all the Fifth Plan Projects latest by the end of the current year.
- (ii) Proposals for restructuring and rationalising electricity industry are under active consideration.
- (iii) Linkage of coal including transport for each Thermal Project before it is sanctioned.
- (iv) Establishing availability of water for each Thermal project.
- (v) Preparation of estimates after carrying out necessary investigations.
- (vi) Monitoring unit is proposed to be set up to watch review, and expedite the progress of on-going projects.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 4-12-1973]

Recommendation (S. No. 26) Para 3.46

The Committee note that the shortfall in the plan has been mainly attributed to delay in the supply of equipment by indigenous manufacturers, non-availability of essential raw materials like steel,

coal, cement etc. to the required extent and delay in the receipt of replacement parts from abroad. Delay in delivery of main equipment by HEIL/BHEL as well as civil works alone has resulted in shortfall to the extent of 3.25 MKW during the Fourth Plan period.

Reply of Government

Please refer to item No. 24 (Para 3.44).

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated
2-11-1973]

Recommendation (S. No. 27) Para 3.47

The Committee strongly feel that there is lack of proper planning and coordination between the Centre and the States in the matter of execution of the various projects undertaken by the State Governments and between the various agencies like N.C.D.C., BHEL and HEIL, resulting in delays in supply of raw material and equipment.

Reply of Government

In order to ensure proper co-ordination between the Centre and the State Governments in the matter of planning, execution and operation of power projects, consideration is being given to re-organise the power supply industry at the earliest.

Steps are being taken to ensure timely and adequate supply of raw material for construction and operation of power plants. For instance, a coal linkage Committee has been set up at the Central level with the representatives of the Ministries of Mines and Railways, CW&PC and Planning Commission to ensure adequate supply of coal to the thermal power stations. A control room has been set up in the Ministry of Railways, with the representatives of the Ministries of Railway, Mines, CW&PC to watch the progress of supply of coal to major thermal power stations.

A Monitoring Cell in the CW&PC have been proposed to be set up with a view to obviate the delays in the implementation of the various power projects in addition to the Ministry of Irrigation and Power have requested the various States to set up a Implementation Cell at the State level.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated
4-12-1973]

Further Information Called for by the Committee

Please intimate the measures taken finally to re-organise the power supply industry to ensure proper coordination between the

Centre and the State Governments in the matter of planning, execution and operation of power Projects.

Further Reply of Government

The matter of re-organising and restructuring the power supply industry is still under active consideration of the Government of India.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 15-1-1974]

Comments of the Committee

The Committee would like to be apprised of the final action taken to re-organise the power supply industry to ensure proper coordination between the centre and the State Governments in the matter of planning, operation and execution of power projects.

Recommendations (S. Nos. 28 and 33) Paras 3.48 and 3.53

The Committee observe that it has been admitted that grouping of projects by plan periods of 5 years has not achieved the desired results. The gestation period of a hydro, thermal or nuclear power plant is anything from 4 to 10 years. The second part of the ten year period is normally the part when the construction as planned would be coming in. The Committee, therefore, feel that the planning and execution of power projects should be a continuous process wherein a complete picture of targets to be achieved is always available in outline, and details are filled in as years progress. The Committee are in full agreement with the recommendation of the Power Economy Committee Report to the effect that advance action in respect of preliminary investigations and designs and estimates should be on a more definite basis and indicate the specific project to be undertaken and their time-table of the major stages. The plans and estimates for the first and prepared after detailed investigations so that any material change in estimates is avoided.

The Committee are of the view that for the successful planning and implementation of power development it is necessary that a long range plan extending over a period of 10 to 15 years based upon realistic estimates of demand, optimal mix of hydro steam and nuclear generation, with adequate transmission system, taking into account the regional power system, condition from time to time should be formulated.

Reply of Government

Power planning is being undertaken on a long term basis covering a span of about 10 to 15 years. The Fifth Five Year Plan is being worked out in detail at present and greater attention is also being paid to some hydro electric schemes which would yield benefits during the early part of the Sixth Plan. Advance action for Sixth Plan Projects is also contemplated so that new capacity is added on a continuously basis. While it may not be possible to have a detailed plan covering a period of 15 to 20 years ready in the context of inadequate information on certain important issues in a developing economy, the estimated demands for power for the period upto the end of the century have been projected. The Ministry of Irrigation and Power have prepared a decade Plan (1971—81) in which various hydro, thermal and nuclear power generation schemes to be taken up immediately for implementation have been indentified.

In order to ensure that the investigations for power generation schemes are carried out properly and the scheme reports are prepared in detail, a Manual for Investigation and Preparation of Project Reports for Generation Projects (Hydro and Thermal) has been prepared by the C.E.A. and circulated to the project authorities in the country.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 4-12-1973]

Recommendation (S. No. 29) Para 3.49.

The Committee note that power is a basic infrastructure for building up the country's economic growth and development, and that shortfall in power impedes growth in the industrial and agricultural sectors.

Reply of Government

The Committee's observations have been noted.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 4-12-1973]

Recommendation (S. No. 30) Para 3.50

The Committee, therefore, feel that there is need of a well-coordinated programme for power development correlated with the growth of industry, agriculture and other sectors which consume it.

Reply of Government

The Committee's observations have been noted. It is agreed that the Power Development Programmes have to be based on an integrated and internally consistent inter-sectional development plan. This is being attempted in the formulation of the Fifth Plan also. The energy requirements of the industries, agriculture and other consuming sectors are assessed and the power plan provides for generating and supplying the same within the constraints of resources.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 4-12-1973]

Recommendation (S. No. 32) Para 3.52

The Committee feel that as the power supply industry is capital intensive and the cost per kilowatt installed both for generation, transmission and distribution is increasing rapidly, it is important that the plan allocations are made in to more rational manner so as not to involve any significant variation in cost or time when implementation is taken up. The committee would in this connection reiterate their earlier recommendation made by them in their Thirtieth Report, 1962-63 (Third Lok Sabha) which is reproduced below:—

“Since the cost of installing 1 KW of electric power is but a fraction of the capital investment required to utilise it, it is obvious that if in any eventuality power generating capacity was under-utilised, it would entail less overall loss to national economy than would be the case if productive machinery was to be rendered idle on account of power deficit. Past experience, in India and other countries, clearly shows that in a developing economy the demand for power nearly always outruns the available supply. Planning for surplus power is, therefore, essential for achieving an optimum rate of growth in the country. The Committee strongly recommend that power being a primary source of energy should be one step ahead of industrial and other requirements.”

Reply of Government

Planning for surplus power is desirable aim and keeping in view the constraints of resources and other constraints, efforts shall be to accelerate the power development to the maximum extent possible.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. No. 34) Para 3.54

The Committee are of the opinion that a scientific evaluation of projects should be made after a comparison of advantages of the alternative sources of energy/fuel-hydro, thermal and nuclear-and combination of them.

Reply of Government

Recommendation is accepted. Each and every project for power generation, transmission and distribution etc., is scrutinised by the Central Water and Power Commission from the technical, economic as well as financial view points before recommending it to the Technical Advisory Committee and the Planning Commission. During this scrutiny, comparison of the relative advantages of possible alternative schemes, keeping in view all the available natural resources, is made.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 2-11-1973]

Recommendation (S. No. 35) Para 3.55

The Committee feel that an assessment of the indigenous machine building and design capacities and the time required for fabrication and delivery should be made with a view to planning imports wherever indigenous capacity is not sufficient to meet the requirements.

Reply of Government

A Committee of Ministers was appointed by the Ministry of Irrigation and Power in July, 1972, with a view to assess the capability of indigenous manufacture of plant and equipment to meet the requirements of power development programme envisaged in the Fifth Five Year Plan. This Committee has submitted a valuable report in June, 1973.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 2-11-1973]

Comments of the Committee

The Comments may be apprised of the findings of the Committee of Ministers and the action taken by government thereon.

Recommendation (S. No. 36) Para 3.56

The Committee are of the view that the projects included in any plan should be carefully scrutinised with a view to fixing a realistic

target with realistic target with reasonable possibility of achievement.

Reply of Government

Before sanctioning a project, realistic construction schedules are prepared to enable fixing targets of commissioning. The project works are proposed to be monitored closely during implementation to remove bottlenecks that might crop up and to expedite the progress of work.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 2-11-1973]

Recommendation (S. No. 37) Para 3.57

The Committee feel that there is need to have full and complete investigations carried out with regard to the project, funds required, schedule of construction programme together with the requirements of raw material and equipment etc. in consultation with all the authorities concerned with a view to minimise delay in the sanctioning of the project.

Reply of Government

In the light of past experience, special efforts are being made for 5th Plan projects for carrying out all necessary investigation and for working out material balances, realistic construction schedules, PERT networks, training and manpower, tying up of water, fuel and transport facilities and provision of funds at the time of project sanction itself.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 2-11-1973]

Recommendation (S. No. 38) Para 3.58

The Committee feel that the State Electricity Boards should be required to place their orders with the indigenous equipment manufacturers sufficiently in advance.

Reply of Government

The recommendation is accepted. The State Electricity Boards have been urged to place orders for the generating plant and equipment as soon as a scheme is sanctioned for implementation by the Planning Commission.

For the Fifth Plan, difficulties are being experienced by some experienced by some projects in placing orders for want of funds

for paying the requisite advance. This matter has been taken up with the Planning Commission and the Ministries of Heavy Industry and Finance for working out a solution.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Further Information called for by the Committee

Please intimate the final decision taken by Government with regard to funds for payment of the requisite advances by the State Electricity Boards for the orders for generating plant and equipment.

[L.S.S. O.M. D.O. 5/13|1|EC. II|73, dated 1-1-1974]

Further Reply of Government

The matter is still under consideration by the Planning Commission in consultation with the Ministries of Irrigation & Power, Heavy Industry and Finance.

[Ministry of Irrigation & Power O.M. No. 32(46)/73-E.L.I. dated 15-1-1974]

Comments of the Committee

The Committee would like to be apprised of the final decision taken in the matter.

Recommendation (S. No. 39) Para 3.59

The Committee feel that the existing system of coordination should be reviewed thoroughly with a view to streamlining the existing procedure for scrutinizing and sanctioning projects and also to remove the bottlenecks, wherever they exist, in the implementation of the projects.

Reply of Government

The machinery and procedures for Plan formation and implementation are being reviewed and improved where necessary. Planning and implementation of power projects requires co-ordination between the State Governments, State Electricity Boards and the Central Government. At the State Government and Central Government level, inter-departmental co-ordination is also required. To ensure proper co-ordination at all levels, proposals to re-organise

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the power supply industry under consideration. Requisite information system and monitoring and implementation organisations are also being set up.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Further Information Called for by the Committee

Please intimate the measures taken finally to re-organise the power supply industry to ensure proper coordination between the Centre and the State Governments in the matter of planning, execution and operation of power projects.

[Lok Sabha Sectt. O.M. No. 5|13|1|EC II|73 dated 1-1-74]

Further Reply of Government

The matter of reorganising and restructuring the power supply industry is still under active consideration of the Government of India. In order to ensure proper coordination at all levels, a Monitoring and Information System for the construction projects at the State, Regional as well as the Central level is proposed to be set up immediately as a Fifth Plan scheme. Necessary provision for the purpose is being made in the Annual Plan for 1974-75.

[Ministry of Irrigation & Power O.M. No. 32(46)/73-E.L.I. dated 15-1-1974]

Comments of the Committee

The Committee would like to be apprised of the final action taken to reorganise the power supply industry to ensure proper Coordination between the Centre and the State Governments in the matter of planning, operation and execution of power projects.

Recommendation (S. No. 340) Para 3.60

The Committee note that two teams of experts have been set up to visit different projects in the country both hydel and thermal. The Committee would like to be apprised of their findings and the recommendations|suggestions made by them together with the action taken by Government thereon.

Reply of Government

Two teams of Experts Committee have visited the various projects in the country both hydel and thermal. After a thorough study of some of the thermal power stations in the Eastern Region, it has, among other things, been suggested that the quality of the fuel should be improved for the thermal power stations, sufficient spares

must be stocked so that the routine maintenance will not take unduly long time and some incentives should be provided for ensuring continuity of service of the persons engaged on power generation.

For the Projects under construction (hydel as well as thermal) the civil works and the delivery of plant and machinery should be expedited, the supply of essential materials like steel, cement, oxygen, acetylene gas should be ensured for the speedy construction of the projects and additional funds whenever required must be provided so that financial bottlenecks do not hold up the commissioning of the units.

In respect of thermal power stations, action is already in hand for the conversion of 2 stage washeries into 3 stage washeries. Creation of separate generation cadres is a matter to be decided by the State Electricity Boards.

The formation of separate generation cadres have been endorsed by the States Minister's Conference.

The State Governments, who are the distributing agencies for the cement, are making all efforts for allocating sufficient cement for the power projects in their area. Central Government is also rendering assistance in procuring scarce material. Additional funds are being arranged for certain projects (where this is the bottleneck) to sustain their tempo of progress as scheduled.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. No. 41) Para 3.61

The Committee note the steps taken by the Ministry of Irrigation and Power to obviate delays in the delivery of equipment, civil works etc. The Committee would like to Project Implementation Cell to function at the Centre as well in each State in order to watch closely the progress made in the execution of the projects to suggest remedial measures.

Reply of Government

The need for implementation/monitoring cells is accepted. An 'Implementation Cell' in the Ministry of Irrigation and Power and a 'Project Monitoring Cell' in the Central Water and Power Commission (Power Wing) have been proposed with a view to obviate delays in the implementation of the various power projects. In

addition, Ministry of Irrigation and Power have requested the various States to set up 'Implementation Cells' at the State level.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Recommendation (S. No. 42) Para 3.62

The Committee are unhappy to note that 9 projects in various States whose target of commissioning ranged between 1970-71 to June 1972 are being spilled over to 1973-74 because of delay in the supply of equipment by BHEL and HEIL and due to delay in civil works. The Committee have already emphasised the need for proper coordination and have for this purpose suggested setting up a Project Implementation Cell. The Committee, however, desire that necessary remedial steps should be taken to ensure that these projects are commissioned according to the revised schedule.

Reply of Government

The Committee's observations have been noted. In respect of the delay in the supply of equipment by M/s. BHEL/HEIL, it is pointed out that in the process of establishment of plant and machinery there have been some unforeseen delays. Deliveries of Plant and equipment have also been delayed due to heavy rejection of castings and delay in supply of imported components etc. The manufacturers are taking note of these factors in their future planning. The delays in civil works are also sought to be avoided by monitoring of progress and arranging for essential construction materials and plant. Works of all the projects are being monitored continuously with a view to rendering all possible assistance and expediting the progress to the minimum extent.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. No. 43) Para 3.63

The Committee note the short-term and long-term measures taken by Government to maximise the utilisation of available generating capacity by streamlining the operation of the existing power plants. The Committee would like to be apprised how far these measures have achieved the desired results.

Reply of Government

A statement showing the plant utilisation for the year 1971-72 and 1972-73 for various thermal power stations is given below. It

would be observed that the plant utilization has improved in most cases.

It is expected that with the setting up of Monitoring Cell in Railway Board for coal movement, training programme for personnel, review by experts etc. the plant utilization in coming years would show further improvement. Improvement of performance is a continuous process and further measures will also be taken as and when deficiencies come to be identified.

*Performance of Thermal Power Stations
(Kwhr/kW)*

Name of Thermal Power Station	1971-72	1972-73
1	2	3
Ahmedabad	5650	6500
Amarkantak	6725	7300
Bokaro	4600	3960
Baramuni	3360	4500
Bandel	4160	4600
Bhusawal	5820	6340
Chandrapura (DVC)	4560	5000
CESC	3500	3740
Durgapur (West Bengal)	2600	2630
Durgapur (DVC)	3700	3500
Ennore	3184	2700
Harduaganj 'A'	4069	3940
Harduaganj 'B'	5506	4100
DESU	4600	4500
Khaperkheda	4824	5180
Kanpur River Side	4200	4250
Kothagudem	5900	6200
Korba I & II	4600	4890
Basin Bridge	2900	3700
Nasik	3842	5350
Obra	5414	5420
Parli	1150	5550
Paras	5120	5470

1	2	3
Panki	3150	5400
Patratu	4472	3730
Ramagudem	4440	1127
Satpura	3440	4500
Trombay	5700	6750
Talcher	1460	2550
Neran	5350	6200

[Ministry of Irrigation & Power O.M. No. 26(46)/73ELI dated 2-11-1973]

Recommendation (S. No. 344) Para 3.64

The Committee are surprised to note that no inventory was being kept for spare parts and no data was being maintained to know the extent to which the power station suffered due to shut-downs for want of spares or due to inferior quality of coal so that financial implications could be gauged. The Committee would like to emphasise that a proper procedure should be devised whereby the requisite data could be collected and maintained which might be useful to devise suitable remedial measures.

Reply of Government

The Recommendation is accepted.

A Monitoring and Information centre is proposed to be set up under Central Water and Power Commission to collect and analyse the data about the operation and maintenance problems.

A Material Management Manual for State Electricity Boards has been prepared by the C.W. & P.C. (PW) giving appropriate methodology for inventory control, procedures and organisation, records, and reports for the top management.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated
4-12-1973]

Recommendations (S. Nos. 45, 46 and 47) Paras 3.69, 3.70 and 3.71

The Committee note that the Power Economy Committee have stated that the BHEL should concentrate on the 200 MW Unit size and also develop 500 MW Unit within the next 7-10 years but with

sub-critical steam pressures, and one or two such large units could be put in operation in one of the regions in order to obtain experience on the prototype so that these large units could be put into operation in other regions also from 1981 onwards.

The Committee note that Government have set up a Committee to look into the question of evolving designs for 500 MW sets with a view to bring them into operation towards the end of Fifth Plan.

The Committee would like to be informed of the concrete action taken in implementation of the above recommendations of the Power Economy Committee.

Reply of Government

The Joint NCST—Planning Commission Task Force on the Research & Development in Electrical Industry have accepted in their Report the necessity of development of design and manufacture of 500 MW Thermal Generating Plant. This would provide bulk of programme for Research & Development activity for the power sector. The institutional responsibility for the preparation of the Project Report has been given to BHEL/HEIL. As the responsibility for developing a Prototype of one 500 MW (near 500 MW) Thermal set for installation and commissioning by 1980 lies with BHEL/HEIL, the BHEL/HEIL is responsible for the following equipments:—

- (i) Steam-generating equipment and auxiliaries.
- (ii) Steam-turbine & turbo-alternator.
- (iii) Condenser, heaters and coolers.
- (iv) Boiler feed pumps, condensate pumps, circulating water pumps etc. and
- (v) Instrumentation and Controls.

The maximum acceptable size of a generating unit is the function of the power level of the net work, its growth rate and mode of operation. Before the design can be commenced, it will, therefore, be essential to identify the sites in the country and know the locations, whether they be at pit-heads of collieries or on coastal lines, atleast on a tentative basis, in order to take into account the conditions at site including the availability of water, cooling water temperature, method of cooling that can be chosen and other related factors.

After detailed discussions among expert groups, it has been concluded that the logical selection of steam parameters should be:

169.8 ata, 538°C/538°C

(2,400 Psig, 1,000°F/1,000°F)

BHEL/HEIL can offer the set in ratings of 425 MW or 500 MW as two alternative propositions, both of which can be got completed in the same time frame. In respect of the Steam-generating equipments, boiler house auxiliaries, condensers and heaters, and the Turbo-alternator, BHEL/HEIL is taking steps to develop the designs through indigenous efforts and the use of the existing knowhow and technical information in respect of 110|120|200 MW Thermal sets. It is only in the area of Steam-turbines, boilers feed pumps (turbine driven) and the Instrumentation and Controls, that technological capability has to be build up expeditiously. Even in the former group of equipment, it is recognised that the indigenous efforts will at all stages be fully backed by Development and Investigational—work which will be commenced now by the R&D Unit of BHEL/HEIL, with the assistance of RODEI and national laboratories and higher technical institutions. Such problems for the turbo-alternator are already identified as:—

- (i) Evaluation of vibration characteristic of stator body.
- (ii) Design of stator core suspension.
- (iii) Critical speed programming of turbo set with rotor coupled and individually.
- (iv) Calculation of stresses in Retaining Ring unit with packing out.
- (v) Detailed thermal and ventilation calculations for the estimation of temperature and coolant requirement in stator core, stator winding, rotor body and rotor winding.
- (vi) Estimation of end part heating under different loadnig and power factor regimes and measure to cool the same; and
- (vii) Adoption of thermal-reactive insulation system for the manufacture of turbo-generator stator bars.

The design of 425 or 500 MW turbo-set does not involve merely a scaling of existing designs for 200 MW systems. Many new and complex design and engineering problems are likely to be faced.

With the available design and technological expertise, it is considered feasible to take a number of problems on our own. However, the development effort will be guided by the philosophy that in those areas/sub-systems, where expertise, test facilities or even process know-how does not exist or is inadequate, foreign assistance will be sought to the extent necessary in keeping with the cost and time-frame. But in all such cases, care will be taken to see that the necessary back-up effort is committed right from the beginning. The present schedule for completion of the detailed project report, design calculation, technical project report, preparation of detailed drawings, manufacture and testing of operation of one prototype as a commercial unit, is to complete it during the year 1980-81.

Research and Development Unit of BHEL/HEIL has already commenced the work. Steps are being taken to create strong technical base to meet this task in close association with the manufacturing plants and also various other research and design organisation existed in the country. Discussions are also being continued with the various foreign countries for limited technical assistance for the scope mentioned above.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. Nos. 48 & 49) Paras 3.82 & 3.83

The Committee regret to note that inferior quality of coal with heavy ash content, which is used by the Power Plants, has seriously affected their working.

The Committee note that the recommendation made by the Technical Committee on Coal Washeries to make two stage washeries into three stage washeries to bring down the percentage of ash content in coal is under examination of the Government. The Committee would like the Government to examine the recommendation of the Technical Committee expeditiously and to take necessary steps to implement it as early as possible. In the meantime, the Committee would like to stress that better quality of coal which does not contain abrasive material, would be used as far as possible with a view to minimise the outage of the auxiliaries and to achieve the optimum generating capacity of the plants, as has been done in the case of Patratu and Calcutta Electric Supply Corporation.

Reply of Government

Gujarat has taken and is pursuing appropriate action for improvement in quality of coal. Durgapur Steel Plant has completed

arrangements for three stage operation of their washery from June, 1973 onwards. Action is also in hand in respect of other washeries for their conversion from 2 stage to 3 stage. Possibilities of reducing the abrasive qualities of coal such as at Talcher by processes like desliming are also being examined.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. No. 50) Para 3.98

The Committee note that power generation in the country has not by and large suffered because of lack of coal production but on account of lack of coal supply due to transport difficulties. The Committee further note that the coal production which had reached the figure of 76 million tonnes has fallen down to 71 million tonnes in 1969-70. They further note that the production is falling though there is a capacity built up for 85 to 90 million tonnes. Coal is there and it can be produced but the difficulty is of its moving.

Reply of Government

The observations of the Committee have been noted. The requirements of coal for the existing and the future expansion of thermal power stations are being firmly linked with the collieries. Coal movements by Railways or by coastal shipping, as appropriate are being planned after careful studies to avoid any shortcomings during the Fifth Plan period. There is a Standing Linkage Committee set up in the Ministry of Mines on which the Ministry of Irrigation and Power, Ministry of Railways and Planning Commission are represented. This Committee constantly reviews the coal linkages to the existing as well as to the future power stations.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Recommendation (S. No. 51) Para 3.99

The Committee would suggest that the Ministry of Railways (Railway Board) should arrange for enough wagons for transporting coal from the coal fields to the Thermal Power Stations so that there is full utilisation of the generating capacity.

Reply of Government

Every month, the Standing Linkage Committee consisting of the representatives of the Ministry of Steel and Mines, Central Water and Power Commission, Planning Commission, Railways, Coal Mines

Authority Ltd., and the Bharat Coking Coal Ltd., meet and review the performance of each power house, including their consumption of coal during the previous month and also decide upon the quantities of coal that have to be supplied by the different coal fields to which the power houses are linked. With the close liaison being kept, the flow of coal to different power houses has been fairly regular. In addition, a Control Room was set up in the Railway Board's office towards the end of June, 1973, consisting of the representatives of the Railways. Central Water and Power Commission and the Mines Ministry. The stock position of important power houses is watched daily and prompt steps are taken for stepping up coal loading in different areas to reach coal to these power houses well in time. Efforts have been made to build up reasonable stocks of coal particularly at the power stations which are at long distances from the Coal fields. These steps helped the power houses to maintain their generation at the highest possible level during the difficult summer months when every power house was asked to generate to the fullest extent.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated
4-12-1973]

Recommendation (S. No. 52) Para 3.100

The Committee are greatly concerned to note that at a time when power is in acute short supply, some of the thermal stations have not been able to generate power to the maximum extent possible for want of assured supply of coal. The Committee feel that as coal has now been nationalised and the thermal stations are also in the public sector, there should be no difficulty in working out in detail the transport requirements of coal and for the Railways to provide the necessary transport on a regular basis in the larger national interests. The Committee cannot help feeling that the Control Room now set up in the Railway Board's office with representatives of the concerned Departments of Mining and Irrigation & Power etc. should have been constituted and made operative before power crisis assumed the present proportions.

The Committee are happy to note that a Control Room has been set up in the Rail Bhavan consisting of the representatives of the Ministries of Railways, Steel and Mines and Irrigation & Power. The Committee hope that suitable remedial measures would be taken so as to obviate difficulties in regard to transport of coal. The Committee could also like to be apprised of the actual functioning of the Control Room in resolving the problem of coal supply.

Reply of Government

The observations of the Committee are noted.

The functioning of the Control Room in resolving the problem of coal suppliers is explained in brief as follows:

The Central Water and Power Commission is obtaining information especially from the major thermal power stations, regarding coal receipts, coal consumption, coal stock and energy generated every day. This is being compiled in a statement form and placed before the representatives of the Railway Board and the Department of Mines in the Control Room. Any distress message received from any particular thermal power station regarding very low coal stock is also intimated to the Control Room by the Central Water and Power Commission representative. The representative of the Railway Board finds out from the various Railways the number of wagons or coal rakes in the pipeline for the major thermal power stations. This information is obtained by them over their own communication system daily. In respect of some Railways like Eastern and Northern Railways, the Railways are also in a position to find out as to how many coal rakes have been made over (for example, at Mughalsaria) and the actual position of coal rakes in different sections of the Northern Railway. They are also quite often in a position to check up the destination station for which coal rakes are intended. This gives an idea about the coal that is in the pipeline for any particular thermal power station. The Railway Board is thus in a position to determine how long it may take for a particular coal rake to reach its destination. Both the power station authorities and the Railways are also keeping a watch for a quick turnover of the coal rakes and return of the empty wagons. Any difficulty faced by the Railways is brought to the notice of the Central Water & Power Commission in the Control Room.

The representative of the Department of Mines ascertains from the mining agencies if necessary programmes of requirements have been submitted and loadings effected in respect of the thermal power stations for which the coal stock has depleted dangerously. The representatives of the Department of Mines and Railways try to keep a watch on coal rakes/wagons droppings either on account of Railways themselves or on account of the mining agencies.

In the case of local difficulties they try to arrange coal supplies from suitable alternative sources. In extreme cases after checking up the availability of coal stock at different thermal power stations even diversion of coal rakes from other users like Railways or from one power station to another power station is restored to.

The Control Room is functioning on a daily basis in respect of major thermal power stations only. Generally in respect of the thermal power stations with capacity less than 50 MW, action is taken by the Control Room only when a distress signal is received. In such cases the Control Room tries to ascertain whether there has been any let-down in the normal programme of such power stations. Remedial measures are then taken to rush coal to such power stations. Important captive power stations of key industries have also been brought under the purview of the Control Room monitoring. Further communication facilities for power stations, collieries and Railways and staffing and computerisation at the Control Room will be necessary for operation of the Control Room on a more comprehensive basis scale required in future. These are being planned.

The monthly requirements of coal for the thermal power stations are being brought to the notice of the Standing Linkage Committee on which the Mining Agencies, the Department of Mines and the Railway Board are also represented. The requirements are being discussed in the Linkage Committee in the light of availability as well as railway constraints and allotment programmes finalised after mutual consultation and agreement.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated
[5-11-1973]

Recommendation (S. No. 53) Para 3.101

The Committee note that the estimated coal demand of 21.43 million tonnes will go upto 24.43 million tonnes in 1973-74 and is further likely to go upto 65 million tonnes by 1978-79. They are, therefore, of the view that it will be necessary to step up production of coal in various collieries in public sector and private sector to meet these requirements.

Reply of Government

With reference to the provisionally accepted power development

programme for the Fifth Five Year Plan, it is assessed that the annual coal requirements by 1978-79 would be about 54--60 million tonnes.

2. With the nationalisation of coal mines, all the coal mines in the country, with the exception of the captive coking coal mines of the two private sector steel plants are now in the public sector. Steps are being taken to make available the above quantity of coal from the public sector mines in accordance with the phased programme of development in the power sector.

[Ministry of Irrigation & Power O.M. No. 26 (46) |73-E.L.I.,
dated 5-11-1973]

Recommendation (Sl. No. 54) Para 3.102

The Committee note that having regard to fact that collection of the geological data and preparation of project report for additional capacity takes time and development of a mine takes 5 to 6 years, the load time involved is 7 to 8 years. The Committee, therefore, feel that there is need to take action for planning and implementing the schemes for expansion of the coal fields so as to meet the projected requirement in time.

Reply of Government

The Committee's observations have been noted. Action is being taken accordingly by the Ministry of Mines.

[Ministry of Irrigation & Power O.M. No. 26 (46) |73-E.L.I.,
dated 4-12-1973]

Recommendation (S. No. 55) Para 3.103

The Committee note that a committee has been formed to establish linkages of sources of supply for the power stations and this committee has so far finalised the linkages for power stations that would be in operation by 1976-77, for which the coal requirement has been assessed at 39.30 million tonnes. Out of this, it is estimated that 27.58 million tonnes would require rail movement. There would be additional requirement of coal of the order of 26.30 million tonnes for the additional schemes in the draft Fifth Plan proposals. Of this 15.48 million tonnes would involve additional rail movement. Thus it is estimated that about 43 million tonnes of coal would involve rail movement by the end of the Fifth Plan. The Committee would, therefore, suggest that advance planning of rail facilities would be essential for the projected movements.

They would like this work to be done in great detail for the Fifth Plan so that Railways take necessary action in time and in an integrated manner to provide the requisite transport facilities on assured basis.

Reply of Government

The Railways are now being closely associated on the planning of new thermal power stations so that they are aware of the requirements in respect of transport of coal for power generation. Specific coal resources and transport arrangements are now required to be tied up in advance as a part of the planning of a new thermal power station. Representatives of the Ministry of Railways and Deptt, of Mines are also included in the Advisory Committee of Planning Commission on Irrigation, Flood Control and Power Projects to ensure that the requirements of the projects in respect of transport are properly arranged in advance. Necessary augmentation of transport facilities by railways are being planned by them as a part of their development plans.

[Ministry of Irrigation & Power O.M. No. 26(46) 73-E.L.I.,
dated 4-12-1973]

Recommendation (S. No. 56) Para 3.104

The Committee agree that with large power stations, each requiring at least 2 to 5 full train loads of coal every day, the methods of mining, loading and unloading as well as transport will have to be revolutionised, introducing the latest modern techniques for efficiency and economy. Unit trains, from specified mines for the power station may become essential features of the future set up. The Committee would suggest that Government should carefully consider the administrative machinery and organisation for catering to these requirements and initiate advance action for these developments.

Reply of Government

Improvement in the methods and scale of operation of coal mining is already under careful consideration of the Department of Mines and the different agencies recently set up and exhaustive studies are being made for meeting the large coal requirements in the Fifth Plan.

The question of improving the loading and unloading methods in regard to coal is under active consideration. A Study Team has

gone into the problems of rationalisation of coal loading in the Bengal-Bihar fields, particularly in the Raniganj area, where the possibilities of grouping of the large number of small collieries into economic units for loading purposes has been gone into. Similar surveys for the Jharia field and the Karanpura field are also being finalised. With the nationalisation of the coal mines, the possibility of consolidation of loading arrangements will be gone into in great detail and suitable methods will be evolved for maximising output. The Railways are keen on loading of coal in block trains at one single point and carrying the same to one single unloading point, leaving the distribution therefrom to be arranged by the State Government or any other recognised agency. This block-rake movement will improve the wagon turnround and the availability of the wagons for the movement of coal to industries, power houses, steel plants, etc.

All major power houses which are being set up in the future will be having either tippler arrangements or underground hopper arrangements. This will enable the power house, to release the BOX trains in the quickest possible time so that the same may be returned to the coal loading points without delay for further loading.

In view of the very large increase in the requirements of Rail transport for coal, proposals are being worked out for supplementing Rail transport by Coastal shipping. This will make Bengali-Bihar coal available to coastal power stations more readily.

[Ministry of Irrigation & Power O.M. No. 26(46)/73 E.L.I. dated 2-11-73]

Comments of the Committee

The Committee would like to be appraised of the improvements made in the loading and unloading methods in regard to coal and in the methods and scale of operation of coal mining and the results achieved.

Recommendation (S. No. 57) Para 3.105

The Committee agree that sea transport may have to be adopted particularly for fuel supply to the coastal power stations which is estimated to be of the order of 2 millions tonnes and suitable freight structure evolved so that as compared to the freight cost from the nearest coal field power stations are not put to extra expenses.

Reply of Government

The likely pattern of sea freight structure for transporting coal

is being worked out by the Ministry of Shipping and Transport. The Central Water and Power Commission and Ministry of Irrigation and Power are keeping in close touch with the Ministry of Shipping on this issue. The necessity, if any, for giving subsidy on the sea freight, so that the power stations are not put to any additional expenses on this account, will be taken up at the appropriate time.

[Ministry of Irrigation & Power O.M. No. 26 (46) |73-E.L.I.,
dated 2-11-1973]

Comments of the Committee

The Committee would like to be apprised of the decision taken with regard to the pattern of sea freight structure for transporting coal.

Recommendation (S. No. 58) Para 3.106

In view of the fact that transport charges for coal are bound to be heavy and the fact that a national grid is being progressively developed in the country, the Committee would like Government to examine most carefully whether it would not be in the larger economic interests to locate the new thermal stations at the pit-heads.

Reply of Government

The Government of India in the Ministry of Irrigation & Power has set up a Committee to identify sites nearer to the pit heads and study their suitability in detail from all techno-economic considerations for setting up of large thermal power stations of approximately 2000 MW capacity (ultimately) in different regions. The Committee has been asked to inspect sites in the following regions.

- (i) One site in Maharashtra;
- (ii) Two sites in Madhya Pradesh;
- (iii) One site in Andhra Pradesh; and
- (iv) Two sites in Eastern Region.

The Committee is likely to submit its Report by the end of this year.

[Ministry of Irrigation & Power O.M. No. 26 (46) |73-E.L.I.,
dated 2-11-1973]

Comments of the Committee

The Committee would like to be apprised of the findings of the Committee set up by the Ministry of Irrigation and Power and the Action taken by Government thereon.

Recommendation (S. No. 59) Para 3.107

The Committee stress that the decision should be taken in each case after most careful consideration so that power is generated and supplied at a most competitive rate to the public.

Reply of Government

The recommendation is accepted.

The Projects are being cleared by the Technical Advisory Committee after a careful examination of all techno-economic feasibilities. Larger size units and other technical advances to be incorporated during the Fifth Plan will, it is expected, bring down the cost of generation.

[Ministry of Irrigation & Power, O.M. No. 26(46) | 73-E.L.I.,
dated 2-11-1973]

Recommendation (S. No. 60) Para 3.148

The Committee are unhappy to note that one of the reasons for the shortfall of power as compared to capacity targets was the delay in the delivery of plant and equipment by the BHEL and HEIL which were two important undertakings in the public sector.

Reply of Government

The Committee's observations have been noted.

The reply under Sl. No. 42 may also please be seen.

[Ministry of Irrigation & Power, O.M. No. 26(46) | 73-E.L.I.,
dated 4-12-1973]

Recommendation (S. No. 61) Para 3.149

The Committee are greatly distressed to note that in spite of the stress laid earlier by the Estimates Committee and the Committee on Public Undertakings, as far back as 1962-63 and 1971-72 respectively, on close coordination and integrated plan for manufacture of generating sets to match the plan requirements, there has been no tangible achievement in coordinating closely the working of these undertakings with the authorities responsible for power development in the country. The Committee, therefore, feel that a sense of participation and involvement in the planned development of power leaves much to be desired.

Reply of Government

The long term manufacturing programme of Bharat Heavy Electricals Limited and Heavy Electricals (India) Limited in regard to power generating equipment closely follows the decade plan proposed by the Ministry of Irrigation & Power. The Planning Commission works out power development programme on a Five Year Plan basis based on various feasibility reports on power schemes worked out by the State Electricity Boards in consultation with Central Water & Power Commission and the Ministry of Irrigation & Power. During the last two years, HEIL/BHEL have been associated with the formulation of the Five Year Plan so that the deliveries match the project schedule. Planning Commission also takes into consideration availability of coal, transport and other financial resources before the projects are sanctioned. The detailed delivery schedules for equipment for individual projects are worked out in consultation with the project authorities to suit the progress at site. The timely placement of orders which would facilitate advance action on auxiliary items is being pursued by the Ministry of Irrigation & Power with the help of the Planning Commission.

[Ministry of Irrigation & Power O.M. No. 26 (46) /73-E.L.I.,
dated 5-11-1973]

Recommendation (S. No. 63) Para 3.151

They note that the Committee on Public Undertakings had occasion to examine the Heavy Electricals (India) Ltd., and Bharat Heavy Electricals Ltd., and had recommended in their 19th and 21st Reports (Fifth Lok Sabha) that Government should consider the question of transferring the administrative control of these two undertakings from the Ministry of Industrial Development to the Ministry of Irrigation & Power as the latter are the main users of the power machinery. Since then a new Ministry of Heavy Industry has been constituted at the Centre, and the two Public Undertakings—Heavy Electricals (India) Ltd., and Bharat Heavy Electricals Ltd., have been transferred to this new Ministry. The Committee would like to bring pointedly to the notice of Government that there continue to be heavy delays in delivery of machinery and equipment to the State Electricity Boards by the Heavy Electrical Industries with the result that the power generation programme in the Fourth Plan has greatly suffered. The Committee would like Government to ensure that advance orders for generating sets and other machinery are placed on these undertakings and that every effort is made to adhere to the time schedule for delivery. The Committee would also like members of CWPC who are represented as Directors on

these undertakings to keep a close watch on the manufacturing programme of these undertakings in order to see that the delivery schedules are strictly adhered to.

Reply of Government

Action is being taken to sanction all the Power Schemes, which will give benefits during the Fifth Five Year Plan, by the end of this year. State Electricity Boards have been addressed to place firm orders on indigenous manufacturers for the supply of Plant and Equipment. It is being ensured that State Electricity Boards provide necessary funds in their annual plans in order to make advance payments, as necessary, to M/s. BHEL|HEIL. Member, (Thermal) CW&PC(PW) is on the Board of Directors of these undertakings, and is keeping a close watch on the manufacturing programme of the plants to ensure the timely supply of equipment for the Fifth Plan Projects.

[Ministry of Irrigation & Power O.M. No. 26 (46) |73-E.L.I.,
dated 5-11-1973]

Recommendation (S. No. 64) Para 3.152

The Committee have also expressed their unhappiness over the 9 projects in various States whose targeted dates of commissioning ranged between 1970 to June, 1972 being spilled over to 1973-74 because of delay in the supply of equipment by BHEL|HEIL and delay in the civil works.

Reply of Government

Committee's observations have been noted.

Please refer to item No. 42 (3.62).

[Ministry of Irrigation & Power O.M. No. 26 (46) |73-E.L.I.,
dated 4-12-1973]

Recommendations (S. Nos. 65, 66 & 67) Paras 3.153, 3.154 & 3.155

The Committee need hardly emphasise that close and continued coordination between the organisations charged with the responsibility for power development in the country and the manufacture of plant and equipment at all levels is vital in the context of rising demand not only from the traditional users in the industrial sector but also from the agricultural sector and rural areas.

The Committee, therefore, feel that in view of the experience gained, it is high time that the existing arrangements for coordination at all levels are reviewed in their entirety with a view to gearing up the machinery and streamlining the whole arrangements to ensure that the delivery of plant and equipment and other raw materials are according to the schedule so as to ensure smooth and uninterrupted progress in the power development programme.

The Committee need hardly stress that any shortfall in the achievement of programmed targets would seriously affect the growth of both the industrial and agricultural sectors resulting in a setback in the country's economic growth.

Reply of Government

The Committee's observations have been noted.

The need for close coordination between project planning organisations and the major indigenous manufacturers is accepted. Such coordination is currently being done with the assistance of C.W. & P.C. Steps are being taken to ensure the arrangement is rendered more effective. Steps are also being taken to evolve suitable arrangements keeping in view the requirements of the Fifth Plan.

[Ministry of Irrigation & Power O.M. No. 26 (46) | 73-E.L.I.,
dated 4-12-1973]

Recommendations (S. Nos. 68 & 69) Paras 3.156 & 3.157)

The Committee are unhappy to note that as against 45 hydro-generating machines (2.1 mkw generating capacity) and 30 thermal sets (2.6 mkw generating capacity) only 11 hydro-units (totalling 0.31 mkw) and 16 thermal sets (totalling 1.23 mkw) had been supplied by the indigenous manufacturers and the indigenous plans aggregating to about 2.7 mkw would spill over to the Fifth Plan.

The Committee regret to note that out of the 54 thermal sets (totalling 6100 MW) and 79 hydro sets (totalling 4749 M.W.) ordered with the different units of BHEL|HEIL, only sets aggregating to a capacity of about 1500 M.W. had been delivered so far, and the remaining sets aggregating to the capacity of 9349 M.W. are proposed to be supplied in a phased annual programme upto 1977-78. The Committee hope that the remaining generating sets would be delivered by BHEL|HEIL according to the schedule.

Reply of Government

So far as BHEL|HEIL are concerned, out of 60 Nos. of Thermal

and Hydro sets to be delivered by March, 1973 there had been delays| shortfall for 16 sets totalling about 1048 MW which might not be commissioned in the 4th Plan. Most of these sets will, however, be delivered during 1973-74 to enable commissioning in the first year of the 5th Plan.

The manufacturing units have been reorganised recently and are being geared up to meet the requirements and from the detailed studies carried out it is seen that the following capacities for thermal and hydro sets could be attained by 1975-76:

(A) Thermal Sets

- (i) 7X110 MW sets per year
- (ii) 3X120 MW sets per year
- (iii) 7X200 MW sets per year.

(B) Hydro Sets

15 to 16 Nos. of Hydro sets with average capacity between 60 and 100 MW per annum.

BHEL|HEIL have so far received orders totalling 12993 MW. Against this, equipment aggregating to a capacity of about 2348 MW has already been delivered till March, 1973. During the current year i.e. 1973-74, delivery of about 2200 MW has been programmed. It is true that delivery of equipments totalling nearly 1048 MW has been delayed but most of the equipments will be delivered by the end of this year so that these could be commissioned in 1974-75. The balance equipments have been programmed for delivery upto 1977-78. With the steps now being taken to augment capacity by providing additional facilities, it is expected that the pace of manufacture will be accelerated and deliveries will be maintained.

[Ministry of Irrigation & Power O.M. No. 26(46)|73-E.L.I.,
dated 5-11-1973]

Comments of the Committee

The Committee regret to note that out of 60 Nos. of Thermal and Hydro sets scheduled to be delivered by March, 1973, delivery of 16 Thermal and Hydro sets have been delayed by BHEL|HEIL. Most of the sets would, however, be delivered during 1973-74 to enable commissioning in the first year of the Fifth Plan.

The Committee hope that there would be a constant endeavour on the part of all concerned to ensure that the pace of manufacture

is accelerated and that the outstanding sets are delivered by BHEL, HEIL according to the revised schedule.

[Ministry of Irrigation & Power O.M. No. 26 (46) 73-E.L.I.,
dated 4-12-1973]

Recommendation (S. No. 70) Para 3.158

The Committee note that a Committee of Ministers headed by the Minister of Finance and Power, U.P., had been constituted to assess the capability of indigenous manufacturers to deliver the equipment required for the power generation programme of the Fifth Plan and to obviate delay in the delivery of the equipment. The Committee would like to be apprised of the recommendation/suggestion made by the said Committee and the action taken by Government thereon.

Reply of Government

The Committee has submitted its Report (copy enclosed) and main findings and recommendations of the Committee are as under:—

The Fifth Plan Power Development should be formulated on the anticipated load demands for that period. On this basis, the Committee has assessed the total required additions during the Fifth Plan at 21.2 million KW. The various generating schemes likely to fructify in the Fifth Plan have been identified by the Committee. The proposals comprise of 8.2 million KW of hydro capacity and 13 million KW of thermal capacity (including 0.7 million KW from nuclear stations).

For successful implementation of this programme, the Committee have recommended that the Schemes not yet sanctioned for implementation (amounting to 10.6 million KW) should be cleared by the Centre on the basis of feasibility reports forwarded by the States so that preliminary works could be started and orders for the generating plant and equipment placed within the current year.

The Committee have further recommended procurement of thermal power plant capacity of 3000 MW comprising 15 X 200 MW thermal sets from other than indigenous sources to meet the proposed target of commissioning in the Fifth Plan. This capacity has been arrived at after considering the total capability of the indigenous manufacturers and covers the gap in the availability and the requirement of generating sets. This does not include capacity already being imported.

In view of the difficulties of indigenous manufacture and urgency for overcoming the power shortage as early as possible, the Committee have recommended that thermal generating plants aggregating to 5 million KW capacity should be imported in 500 MW unit size. This action should be taken immediately so as to provide enough capacity for meeting the power requirements in early years of the 6th Plan period.

To overcome the shortage of steel, large power transformers and other auxiliary equipment in the country, it is recommended that while placing orders for 5 million kw generating plants, all auxiliary and ancilliary items should also be imported. Since the preparation of layout drawings will require considerable time, if this work is to be carried out in India after placement of order, it would be necessary to procure along with the equipment complete layout plans and construction drawings as well. These 500 MW sets should be installed in large thermal power stations of 1000 MW capacity having two units of 500 MW each to be located in various areas for meeting the shortage of power in different States. Since the coal requirement for these power stations would be heavy these should be located within a reasonable distance from the coal fields so as to avoid long distance transportation of coal by rail.

Import of hydro capacity to the extent of 2441 MW (excluding capacity already under import) comprising of:—

- (a) sets in the manufacture of which M/s. BHEL/HEIL are not interested (301 MW).
- (b) pumps storage sets for which the necessary technical know-how is at present not available indigenously (452 MW).
- (c) to meet the gap between the indigenous manufacturing capability and the requirement (1688 MW).

An imprest amount of Rs. 50 crores should be placed at the disposal of M/s. HEIL/BHEL to ensure continuous manufacture of standardised items of power plant and equipment without waiting for specific orders. This would enable shorter delivery periods and sequential punctual supplies to projects.

The manufacturing capacity both in private and public Sectors of various auxiliary and ancilliary items should be expanded:

Perspective plan for power development should be always available for a period of next 15 years. The plan should be extended every year to cover 15 years. The plan for the first 5—7 years should be definite at any time and should be under implementation

As sequel to the committee's recommendations a steering committee comprising the Minister for Power and Irrigation and Heavy Industry and concerned State Ministers for Power has been set up for steering the Power Programme including timely supply of generating plant and equipment for approved Projects.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973].

Recommendation (S. No. 71) Para 3.159

The Committee note that apart from the aforesaid Committee, the Ministry of Irrigation and Power had constituted another Committee to watch the progress of manufacture and supply of power generating equipment by HEIL/BHEL under the Chairmanship of the Vice-President, Central Water and Power Commission. The Committee would like to be apprised of the results achieved.

Reply of Government

The Committee constituted under the Chairmanship of Vice-Chairman, CW & PC to watch the progress of manufacture and supply of generating equipments by BHEL/HEIL meets periodically to review the supply position of equipment to the projects where the civil works are in advance stage to receive the equipment and the manufacturers are being asked to expedite the supply. The Vice-Chairman of CW & PC is also one of the Members of the Board of Directors in the HEIL/BHEL.

These arrangements have proved effective in expediting the supply of plant and equipment so that it matches with the project requirements.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973].

Recommendation (S. No. 72) Para 3.160

The Committee note that the requirements of steel and cement have been assessed for the Fifth Plan generation programme. The Committee desire that timely action should be taken to place the requirements with the suppliers well in time and the progress of supply orders watched closely to ensure the delivery according to schedule.

Reply of Government

The recommendation of the Committee has been noted. The State Electricity Boards as well as the project authorities have been

advised to plan their requirement with the suppliers well in time and to watch closely the progress of supply of steel, cement and other construction materials according to the prescribed time schedule.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973].

Recommendation (S. No. 73) Para 3.161

The Committee are surprised to find that while on the one hand late delivery of plant and equipment by BHEL/HEIL has been attributed as one of the major reasons for the shortfall in the projected targets and completion of the projects according to schedule, on the other hand it has been claimed by the Ministry of Industrial Development that no orders were refused for want of capacity and that the flow of orders was erratic. The Committee have already emphasised the desirability of placing firm and continuous flow of orders with the indigenous equipment manufacturers well in advance to obviate delay in their delivery.

Reply of Government

The Committee's observations have been brought to the notice of all the State Electricity Boards/State Governments on whom the importance of placing orders well in advance has also been stressed. The Ministry of Irrigation and Power Planning Commission are also setting up arrangements for monitoring of project execution. Timely placing of orders for plant and equipment will be watched systematically.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973].

Recommendations (S. Nos. 74 & 75) Paras 3.162 & 3.163

The Committee are unhappy to note that the plant and equipment imported in certain cases was still lying idle for more than two years due to some organisational difficulties required to be solved. This again goes to show faulty planning on the part of the planners. The Committee would like to reiterate the desirability of reorganising all the segments in the electricity industry, the project management, monitoring and purchasing systems etc., so as to follow a stream-lined procedure.

The Committee desire that immediate steps should be taken to ensure that the plant and equipment lying idle are put to use without delay and the Committee apprised of the final position in this regard.

Reply of Government

The observation is noted. In regard to the recommendation reference is requested to the reply given in respect of recommendation No. 41 (Para No. 3.61) of the report. The latest position in regard to projects where imported equipment lay idle is as follow:—

- (1) Kosi East Canal Power Station (Bihar): The order for four generating units of 5 MW each had been placed on Japanese suppliers. The first three units were commissioned in 1969-70, 70-71 and 72-73 respectively. The delay in commissioning of the fourth unit is due to the impounding of equipment by Pakistan during the conflict in 1965. After release and receipt of the equipment, several important items like stator coils were found to be missing. The replacement parts are awaited at present from the manufacturers in Japan and the generating unit will be commissioned as soon as these are received and the installation completed.
- (2) Iddike Project (Kerala). The civil works have been delayed due to frequent and prolonged labour troubles although the equipment from Canada is at site. Strikes have now been prohibited and as a result of various steps taken, the work at site is showing progress. It is expected to commence power generation in early 1975. Additional funds are being made available for expediting the project works.
- (3) Balimela Project (Orissa): The civil works have been expedited and one unit of 60 MW (USSR make) has been commissioned. Commissioning of further units will follow at close intervals.
- (4) Lower Sileru Project (Andhra Pradesh): The plant and equipment from USSR is available. The civil works have been delayed mainly due to difficult resources position of the State. Additional funds have been provided in 1972-73 and 73-74 for expediting the project construction works. With some rearrangement of the works it will now be possible to commission the first 100 MW unit in 1975.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973].

Comments of the Committee

The Committee desire that strenuous efforts should be made to procure replacement parts available from the manufacture in Japan

for the Commission of Kosi East Canal Power Station in Bihar and also to expedite completion of the civil works at Iddki Project (Kerala) and Lower Sileru Project in Andhra Pradesh so that the Commissioning of these projects is not further delayed.

Recommendation (\$ No. 76) Para 3.164

The Committee note that with a view to obviate delay in the commissioning of certain projects, equipment was allowed to be imported. The Committee feel that though every effort should be made to accelerate the growth of the capability of BHEL/HEIL and their feeder projects so that the requirements are met indigenously, the execution of the schemes/projects should not be help up and where the indigenous manufacturers are unable to cope with the needs of the power supply industry, imports of the plants and equipment may have to be allowed to the extent necessary in view of the widening gap between the demand and supply of power.

Reply of Government

The recommendation is accepted. The availability of plant and equipment for each power generation of transmission scheme is examined at the time of sanction so as to match the requirements and the manufacturing programme of the indigenous manufacturers. Individual cases of power projects are further considered on merits for import of necessary plant and equipment where it is found that the manufacturing plants would not be able to meet the requirements of the power project in time.

The Committee of Ministers of power to examine the adequacy of the indigenous capacity for supply of power equipment to meet the requirements of the power generation programme in the Fifth Plan has submitted its Report.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973].

Recommendation (\$ No. 77) Para 1.165

The Committee feel that it would be the responsibility of the Ministry of Irrigation and Power to assign priorities to the programme for the manufacture of equipment for various projects matching with the requirements in consultation with the concerned authorities.

Reply of Government

The Committee's observation has been noted. Suitable arrangements are being evolved.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973].

Recommendation (S. No. 78, Para 3.166)

The Committee are in agreement with the views of the Power Economy Committee that the Ministry of Industrial Development should plan the major items of plant and equipment for each project suitably on the manufacturing units, taking into account the requirements of the project in respect of similar units, schedule of construction etc.

Reply of Government

The manufacturing units have been advised to plan the manufacture and supply plant and equipment taking into account the sequence of work at site and number of similar units required.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973].

Recommendation (S. No. 79, Para 3.167)

Sometimes considerable time is lost in negotiating prices with the above two Public Sector Undertakings. It is reported that the prices of turbo-generators and other equipments supplied by those undertakings are comparatively much higher than the imported plant and equipment, one of the main reasons for this is that we are dependent on foreign designs and technology and have to import some of the most basic components of the plant. This points to the urgent need of organising design sections in the Public heavy electrical manufacturing undertakings so that we should be able to evolve our own designs rather than be dependent on the collaborators for design for all times.

Reply of Government

Realising the need for sustained programme of indigenisation and import substitution and for developing our own technological expertise, a Research and Development Division has been created recently in BHEL besides building up of the designs department. The two manufacturing units have also voluntarily undertaken to price their products to International Standards without resorting to the

10 per cent price preference which had been generally permitted to public undertakings under Bureau of Public Enterprises' circular instructions.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973].

Recommendations (S. Nos. 80 & 81, Paras 3.174 & 3.175)

The Committee note that the total investment in the power sector at the commencement of the Fourth Plan was of the order of Rs. 3,629 crores. In the Fourth Plan, the allocation for power in the Public Sector is Rs. 2,447.57 crores. During the first three years of the plan, a total expenditure of Rs. 1,502.57 crores was incurred and it is anticipated that during 1972-73 an expenditure of Rs. 544.46 crores will be incurred bringing the total expenditure in the four year period to Rs. 2,047.03 crores, which is about 84 per cent of the Plan allocation. The investment on power at the end of the year 1972-73 would be of the order of Rs. 5,676.03 crores.

The Committee are unhappy to note that the achievement during the successive Five Year Plans was not commensurate with the investments made as there had been consistent short falls in the planned targets ranging from 20 per cent in the First Plan to 37 per cent in the Fourth Plan (1st three years).

Reply of Government

The Committee's observations have been noted. The shortfall is regretted. The reasons for the shortfall have been analysed carefully and lessons drawn for improvement in the performance in the future.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973].

Recommendation (S. No. 82 Para 3.176)

The Committee urge that immediate steps should be taken to provide additional funds for the execution of the 16 projects in respect of which preliminaries have already been completed and which have either been delayed or are likely to be delayed for back of finances.

Reply of Government

The recommendation is accepted.

A detailed scrutiny of the status of the projects is carried out in respect of ready availability of plant and equipment, capability of

the project organisation in men, equipment and materials and possibilities of accelerating the pace of work by providing additional funds. On the basis of this, additional funds are made available to the extent possible. In 1972-73, the following projects were assisted in this manner:—

1. Kothagudam Thermal Station
2. Lower Sileru H. E. Project
3. Patratu Thermal Power Station
4. Balimela H.E. Project
5. Obra Thermal Station Extension
6. Idikki H.E. Project
7. Faridabad Thermal Station
8. Koradi Thermal Station
9. Koyna H.E. Project Stage III
10. Bhatinda Thermal Station
11. Beas Project.

In 1973-74 the following are being considered:—

Lower Sileru, Kothagudam, Sabarmati, Santhaldih, Idikki, Subernarekha, Faridabad.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-ELI dated 4-12-1973]

Recommendation (S. No. 83, Para 3.177)

The Committee desire that effective measures should be taken to expedite the completion of civil works in respect of the above schemes in various States.

Reply of Government

The recommendation is accepted. The progress of the projects under construction is being constantly monitored by the team of consultants of this Ministry. Periodic reviews are also being made at the highest level to sort out any difficulties faced by the Project authorities. As mentioned under item 82 (para 3.176), additional financial assistance is being given to the States to expedite the progress of these projects where necessary. Supply of steel, cement, and other scarce resources is also being arranged on a priority basis. State Governments have also been requested to expedite civil works of projects being implemented by them|State Electricity Boards.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-ELI dated 4-12-1973]

Recommendations (S. Nos. 84, 85 & 86, Paras 3.189, 3.190 & 3.191)

The Committee are unhappy to note that although the per capita electricity consumption rose from 17.8 kWh in 1950 to 88 kWh in March, 1971 and from 90 kWh in 1970-71 to 93 kWh in 1971-72, the per capita consumption in the country is dismally low as compared to the work average of 1200 kWh.

The Committee are distressed to note that despite nine-fold increase in the generating capacity, there still persists considerable imbalance in per capita consumption between the various States in the country. The Committee are constrained to note that certain States|Areas viz. U.P. (60 kWh), Rajasthan (55 kWh), Himachal Pradesh (40 kWh). J&K (40 kWh) in the Northern Region; Madhya Pradesh (58 kWh) in the Western Region; Andhra Pradesh (58 kWh) and Kerala (74 kWh) in the Southern Region; North Bihar (18.3 kWh) and North-Bengal in the Eastern Region, and the entire North Eastern Region comprising Assam, Meghalaya, Mizoram, Manipur, Tripura, Nagaland and Arunachal Pradesh are still far below the national average.

The Committee note that the pre-requisite to reduce the disparities is providing increased availability of power in States|Areas which are below average in electricity consumption. They therefore suggest that effective steps should be taken to achieve the desired results by providing additional installed generating capacity and building extensive transmission and distribution systems in such areas.

Reply of Government

The observations of the Committee are noted. The recommendation for minimising disparities is also accepted in principle. In this connection the following is also respectfully submitted:—

Consumption of power depends mainly upon the development of industries and agriculture and the standard of living obtaining in the State. Generally, Industries consume nearly 70 per cent and agriculture about 12 to 15 per cent of the total consumption. Therefore, the concept that the per capita consumption in each State should not materially differ from the national average would need to be supported by simultaneous and uniform development of each State. Industrial development would depend largely upon the availability of raw materials and natural resources such as water, coal, oil, etc. The uneven dis-

persal of these natural resources and also the uneven dispersal of the mineral resources over the country demands that in the interest of the country's economy the industries should be located at the most economical sites. At the same time, special efforts are made to attract industries to the relatively backward areas by providing the necessary infra-structure for industrial development and other necessary incentives. The power consumption in agriculture sector also depends upon the annual precipitation in each State and also the availability of underground water resources.

There is an impression that per capita consumption increases with the increase in generating capacity. While this may be true to an extent it has to be appreciated that for utilising 1 kW of installed capacity, the investment in the consumption sector will have to be of the order of Rs. 10,000 to Rs. 12,000. In the absence of such investments the consumption does not increase.

Nevertheless, in the formulation of the 5th Plan, special attention is being given to creation of power generation facilities or improving power availability in the backward areas. Inter-State transmission lines are also proposed to be augmented and strengthened to facilitate transfer of power from one state to the other.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-ELI dated 4.12.1973]

Recommendation (S. No. 87, Para 3.192)

The Committee regret to note that the per capita consumption of electricity is anticipated to be only 200 kWh even at the end of the Fifth Plan as against the per capita consumption of 10,000 kWh in the United States and 2000-3000 kWh in Europe.

Reply of Government

The observation of the Committee is noted. The rate of growth of the power sector is however influenced by a variety of factors. A Five Year Plan is an integrated development plan and taken into account the available material and financial resources and implementation capabilities. Consistent with a growth rate of 5.5 per cent over the capabilities. Consistent with a growth rate of 5.5 per cent in 1978-79 has been assessed at about 1,00,000 million kWh for meeting which an installed capacity of 33 million kW will be required.

In the Fifth Plan the additions being planned are of the order of 16.5 mkw. Considering the above, the target adopted is quite am-

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bitious. The per capita power consumption will therefore depend upon the implementation capabilities developed over the Fifth Plan period.

[Ministry of Irrigation and Power O.M. No. 26(46) 73-ELI dated 4.12.1973]

Comments of the Committee

The Committee hope that Government will make all efforts to develop the implementation capabilities during the Fifth Plan period not only to achieve the Fifth Plan targets for power development but also to raise per capita electricity consumption by providing increased availability of power in States/areas which are below average in electricity consumption.

Recommendation (S. No. 88, Para 3.193)

In view of the fact that per capita consumption of electricity is a yardstick for measuring the economic development of the country, the Committee feel that highest priority should be given for meeting the power demands in all sectors of economy, and the poor revenue yielding areas which have hitherto remained neglected should be given preference in regard to their economic uplift, by providing the essential infra-structure of electricity at cheap rates.

Reply of Government

Power development has been accorded priority in all the Five Year Plans as can be seen from the table below:—

Investment in Public Sector

(Rs. Million)

	Total Investment			Investment under power				Per-centage		
	Centre	States	UTs	Total	Centre	States	UTs	Total	col.8/4	col.6
	1	2	3	4	5	6	7	8	9	10
First Plan	7060	12540	(ii)	19600	110	2490	(ii)	2600	13.3	19.00
Second Plan	25340	20830	550	46720	250	4300	50	4600	9.9	20.6
Third Plan	42110	41650	2010	85770	850	11390	280	12520*	14.6	27.4
1966-67	11259	9880	480	21610	700	3210	130	4040	18.7	32.5
1967-68	10300	10050	560	20910	580	3320	160	4060	19.4	33.2
1968-69	12480	10680	610	23770	470	3500	100	4130	17.4	32.6
Fourth Plan approved only	88710	66160	4250	159120	4467	19190	818	24480	15.4	29.0

@Included under State.

*Fourth Plan Document 1969-74.

The improvement per capita consumption however would largely depend upon the growth in demand for power and extent to which demand can be met.

As regards giving preference to the backward areas, it is proposed to spread the benefits of electricity to backward areas in the States during the Fifth Plan period under the minimum Needs Programme (MNP). The programme of rural electrification under the MNP is being finalised in consultation with the States.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 4-12-1973].

Recommendation (S. No. 89, Para 4.60)

The Committee are unhappy to note that out of the 41.15 MKW (at 60 per cent load factor) of hydro-electric potential in the country only 16 per cent has been developed so far and it is expected to rise to 18 per cent only at the end of the Fourth Plan.

Reply of Government

The observation of the Committee is noted.

Every effort is being made to ensure rapid development of hydro resources. However, it is submitted that a number of factors, notably inter-State disputes, need for detailed field investigations, generally long gestation periods, large requirements of funds, and lack of access to hydro-electric sites, stand in the way of a more rapid pace of development being achieved. Appropriate steps to get over these difficulties are being taken.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-ELI dated
4.12.1973]

Comments of the Committee

The Committee would like the Government to take vigorous and effective steps to overcome the difficulties like inter-State disputes and lack of access to hydro-electric potential in the larger interests of the nation.

Recommendation (S. No. 90, Para 4.61)

The Committee note that the hydro potential in the country is the cheapest source of power and the present extent of utilisation would only be of the order of about 18 per cent by the end of the Fourth Plan period. The Committee feel that there is great scope

for hydropower development in the various regions of the country and, therefore, recommend that high priority should be given for hydel development in the subsequent Plans.

Reply of Government

In consonance with the recommendation of the Committee every effort is being made to ensure rapid development of hydro resources. Advance action for investigation etc. is being initiated for ensuring more rapid development in subsequent Plans. The recommendation is accepted.

[Ministry of Irrigation & Power OM No. 26(46)|73-E.L.I dated
5-11-1973]

Recommendation (S. No. 91, Para 4.62)

The Committee would, in this connection, like to reiterate the recommendation contained in para 2.49 of their Fourtieth Report on Fertilizers (1972-73) regarding the feasibility and economics of harnessing, in an integrated manner, the river water for flood control, irrigation and production of electricity for various purposes including its use as a feedstock for the production of fertilizers which are also in great demand.

Reply of Government

In consonance with the recommendation of the Committee, multi-purpose development of water resource is aimed at to realise benefits of irrigation, hydropower, domestic and industrial use of water, flood control etc. Bhakra, Hirakud, D.V.C. dams etc. are examples of such development.

[Ministry of Irrigation & Power O.M. No. 26(46)|73-E.L.I dated
4-12-1973]

Recommendation (S. No. 92, Para 4.62)

The Committee are distressed to note that against the planned target of 97. mkw for development of hydro-power resources during the Fourth Plan, only 7.5 mkw would actually be achieved, thus leaving a shortfall to the extent of 2.2 mkw.

Reply of Government

The Committee's observations have been noted. Also please refer to reply given to item No. 24 (para 3.44).

[Ministry of Irrigation & Power O.M. No. 26(46)|73-E.L.I dated
4-12-1973]

Recommendation (S. No. 94, Para 4.65)

The Committee note the progress of investigations made in respect of the 62 hydel schemes investigated under the U.N. Special Fund Assistance Programme. The Committee desire that in all the cases where investigations have been completed, speedy action should be taken to draw up the project proposals and to finalise them early.

Reply of Government

Recommendation is accepted.

The investigations of most of the schemes are being carried out by the States. In cases where the work on investigation and preparation of project reports has not been completed, steps are being taken to pursue the matter with the project authorities. The States have been advised to take speedy action to draw up and finalise the project proposals early in all the cases where investigation have been completed.

[Ministry of Irrigation & Power O.M. No. 26(46) | 73-E.L.I dated
5-11-1973]

Recommendation (S. No. 95, Para 4.66)

The Committee recommend that high priority should also be given for detailed investigations of hydro-electric projects so that these could be taken up for implementation for deriving the benefits in the next decade.

Reply of Government

The recommendation is accepted. Please refer to the reply given to items Nos. 89 & 90 (paras 4.60 and 4.61).

It is further stated that in consonance with the recommendation, additional funds are being released for accelerating the work of investigations of hydro-electric projects in J & K and in Himachal Pradesh where there is good scope for exploitation of hydro potential during 1973-74 itself.

[Ministry of Irrigation & Power O.M. No. 26(46) | 73-E.L.I dated
4-12-1973]

Recommendation (S. No. 96, Para 4.67)

The Committee desire that schemes pending due to inter-State agreements should also be finalised without delay.

Reply of Government

All efforts are being made to see that agreements are reached to enable hydro-development to take place.

[Ministry of Irrigation & Power O.M. No. 26(46)|73-E.L.I dated
4-12-1973]

Recommendation (S. No. 97, Para 4.68)

The Committee are in agreement with the views of the Power Economy Committee that optimum and proper utilisation of energy potential of hydro electric sites is intimately linked with proper water management. This fact is often overlooked leading to adverse conditions. It is not generally appreciated that the constraints on generation at a particular hydro-electric plant are normally set by availability of water and not by the capacity of the plant as is the case with fuel burning plant. The generation of energy with the available water and given regulation facilities has to be carefully anticipated and programmed. Serious difficulties not merely of non-availability of energy but of serious impairment of generating capacity and system regulating facilities can arise if due attention is not paid to water management. On the other hand, continued attention to this problem may enable improving of utilisation of water at many sites as the system demands.

Reply of Government

The Committee's observations have been noted. The States and the Project authorities have been advised that the guidelines for proper water management of a hydro-electric project should invariably be prescribed in the operating instructions and Designers Operating criteria for the project. The necessary expertise is available in the CWPC.

[Ministry of Irrigation & Power O.M. No. 26(46)|73-E.L.I dated
4-12-1973]

Recommendation (S. Nos. 98 & 99, Paras 4.69 and 4.70)

The Committee strongly recommend that concerted efforts should be made to ensure that each hydro-electric power station in the country is operated to utilise fully the energy potential available at site from time to time.

The Committee recommend that arrangements should be made for periodical expert inspection of the hydro-electric projects so that the old or worn out parts and components are replaced well in time.

Reply of Government

Please refer to reply given to item No. 40 (para 3-60).

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. No. 100 Para 4.71)

The Committee recommend that all the projects in the country which have become very old and outmoded in design resulting in reduction in capacity and performance should be carefully reviewed with a view to examine how these could be improved by modernisation, utilising new and improved plant.

Reply of Government

Since all plant and machinery have their own limited period on useful life, these have to be got replaced by modern plant with advanced technology in course of time through the implementation of a new project or renovating extension of the existing station. The recommendation which is accepted, has been communicated to the State Governments/State Electricity Boards for necessary action.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Comments of the Committee

The Committee would like to be apprised of the action taken by the State Governments/State Electricity Boards.

Recommendations (S. Nos. 101 & 102, Paras 5.41, 5.42)

The Committee note that at the beginning of the Third Plan, the total length of transmission and distribution lines in the country was about 147,000 circuit km. During the Third Plan period about 395,000 circuit km. were added bringing the total length as on 31st March, 1971 to 11,17,000 circuit km.

The Committee note that by the end of Fourth Plan period about 2,470 circuit km of 400 kv lines, 26,536 circuit km of 220 kv lines including inter-State/Regional links and 4,505 circuit km of 132/110 kv inter-State/Regional links are likely to be completed or would be under construction.

Reply of Government

The observations of the Committee have been noted.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Recommendations (S. Nos. 103 & 104, Paras 5.43 & 5.44)

The Committee note that out of the sanctioned outlay of Rs. 14.73 crores during the years 1969-70 to 1971-72, the expenditure on inter-State/Region lines was only about Rs. 11.62 crores.

The Committee note that in order to accelerate the establishment of Rs. 22 crores provided in the Fourth Plan is being raised to Rs. 40 crores for implementation of construction of 37 transmission lines during the plan period.

Reply of Government

The Committee's observations have been noted.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-73.]

Recommendation (S. No. 105 Para 5.45)

The Committee also note that out of all the 38 inter-State links taken up, 24 lines would be completed during the Fourth Plan and the remaining lines within the next year or two. The Committee would urge that effective steps should be taken to expedite the completion of all these lines.

Reply of Government

The concerned State authorities are being urged to complete construction of these inter-State lines as early as possible. The requisite funds are being made available outside the State Plan. Assistance in supply of steel, conductor etc. is also given. Where necessary, arrangements are being made for close monitoring of the progress through the Regional Electricity Boards and Central Water and Power Commission (Power Wing).

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-73.]

Recommendation (S. No. 106 Para 5.46)

The Committee are distressed to note that the progress of inter-State/Regional lines had not been satisfactory mainly due to inadequate capital outlay in the earlier Plans as well as in the Fourth Plan coupled with the bottlenecks in the availability of raw materials like steel, zinc, etc., and equipment like transformers, switch-gear, control gear etc. involving long term delivery.

Reply of Government:

The observation of the Estimates Committee is noted. The Central Water and Power Commission and the Ministry of Irrigation and Power are making all out efforts to ensure that steel, cement and zinc are made available to the Electricity Boards for the inter-State/regional transmission lines. Wherever it is observed that sufficient quantities of steel are not available from the indigenous sources, arrangements are made for the import of the steel needed.

In consultation with the State Electricity Boards and the Project authorities, supply of equipment is being vigorously pursued with the manufacturers and help rendered to them wherever necessary. Close Monitoring of implementation of these projects has also been instituted.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 5-11-1973.]

Recommendation (S. No. 107 Para 5.47)

The Committee have elsewhere in the Report emphasised the need for more rational allocations for the plans/schemes so that these are not held up for lack of finances and for close coordination at all levels to ensure timely supply of equipment and raw materials etc.

Reply of Government

The observations of the Committee have been noted. Please refer to reply given to item No. 105 (para 5.45).

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Recommendation (S. No. 108, Para 5.48)

The Committee suggest that action should be taken well in advance to work out the requirements of the essential raw materials so that delivery is assured according to schedule.

Reply of Government

The recommendation of the Committee has been noted and State Electricity Boards/Projects Authorities have been advised to take suitable action in this regard. Suitable monitoring arrangements are also being proposed to ensure proper implementation of this.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-73.]

Recommendation (S. No. 109 Para 5.49)

The Committee are unhappy to note that there is lack of enthusiasm on the part of the State authorities to pursue the inter-transmission programmes vigorously even though the Centre decided to provide 100 per cent loan assistance to States under Centrally sponsored schemes outside the State ceiling for the construction of various inter-State links during the Fourth Plan period resulting in delay in the commissioning of some of the transmission lines and the sharing of surplus power with the State suffering from power shortage in the region.

Reply of Government

The Committee's observation has been noted. The State Governments are being urged to take steps for speedy completion of the various inter-State links. The matter is also being brought up for consideration by the Regional Electricity Boards where the programme of power exchanges is drawn up and operated.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-73.]

Comments of the Committee

The Committee would like to be apprised of the progress made with regard to the completion of the inter-State links by the State Governments concerned.

Recommendation (S. No. 110, Para 5.50)

The Committee urge that Government should take up the question with the State authorities concerned with a view to impressing upon them the necessity for giving adequate priority for speedy completion of these schemes.

Reply of Government

Action is being taken on the above lines. Please refer to reply given to item No. 109 (para 5.49).

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-73.]

Comments of the Committee

The Committee would like to be apprised of the progress made with regard to the completion of these schemes.

Recommendations (S. Nos. 111 & 112 Paras 5.51 & 5.52)

The Committee also note that State/Regional Load Despatch Stations are planned to be established to control and operate the State/Regional Grids and that the proposals are at various stages.

The Committee would like to urge that necessary action should be taken to ensure that these schemes are finalised speedily matching with the delivery of equipment and other raw material so that their implementation is taken in hand well in time.

Reply of Government

Action for preparation of schemes at the State level is already on hand and necessary assistance is being rendered where required. Schemes relating to Regional Load Despatch Stations in the four regions, namely, Northern, Western, Southern and Eastern Regions have already been finalised and necessary action for procurement of equipment etc. is being initiated. IDA credit has been arranged for the Northern and Southern Regional Load Despatch Stations. It is anticipated that bulk of the work pertaining to the establishment of Regional Load Despatch Stations in the above four Regions would be completed during the Fifth Plan period.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-73.]

Comments of the Committee

The Committee desire that a time-bound programme for the establishment of State/Regional Load Despatch Stations during the Fifth Plan period may be drawn up and continuous efforts made for coordination at all level to ensure their completion according to schedule.

Recommendation (S. No. 113, Para 5.53)

The Committee feel that with the large size power stations proposed in the Fifth Plan and envisaged enlargement of transmission and distribution net-work, integrated operation of power system with utmost expedition is necessary. The Committee, therefore, recommend that the question of setting up a Central Agency to operate the regional grid system with the cooperation of the Constituent power system in each region should be examined.

Reply of Government

The establishment of agencies to operate grids as a part of the

proposals for restructuring of the Electricity Supply Industry is under the consideration of the Government of India.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Further Information Called for by the Committee

Please intimate if a final decision has been taken to set up a Central Agency to operate the regional grid system.

[Lok Sabha Sectt. O.M. No. 5|13|1|ECII|73 dated 1-1-74].

The matter of reorganising and restructuring the power supply industry is still under active consideration of the Government of India.

[Ministry of Irrigation & Power O.M. No. 32(46)/73-E.L.I. dated 15-1-74]

Comments of the Committee

Please see Comments of the Committee on reply of Government to recommendation No. 27.

Recommendation (S. No. 114 Para 5.54)

The Committee feel that though the Electricity (Supply) Act, 1948 provides for coordinated development of State Power Grid and for the efficient running and working of the licences/undertakings, the growth of power development has been so rapid that it is high time to examine the question whether any modification in the legislation is necessary with a view to achieving the objective of establishment and operation of regional power grid in the interest of optimum benefit to all concerned.

Reply of Government

The restructuring of Electricity Supply Industry is under active consideration. Establishment and operation of Regional power grids in the interest of optimum benefit to all concerned is one of the important objectives proposed to be secured in restructuring the Industry.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Furthr Information called for by the Committee

Please intimate if a final decision has been taken to set up a central agency to operate the regional grid system.

[Lok Sabha Sectt. O.M. No. 5/12/1/ECII/73 dated 1-1-74].

Further Reply of Government

The matter of reorganising and restructuring the power supply industry is still under active consideration of the Government of India. Further, in order to ensure efficient working of all the existing power installations, a monitoring and Information System for the operating projects at various levels is being set up. This is being included in the Fifth Plan Power Sector as a Central Scheme.

[Ministry of Irrigation & Power O.M. No. 32(46)/73-E.L.I. dated 15-1-74]

Comments of the Committee

Please see Comments of the Committee on reply of Government to recommendation No. 27.

Recommendation (S. No. 115, Para 5.55)

The Committee recommend that in order to fix physical targets and outlays for the transmission programme in the Fifth Plan, advance action should be taken to finalise the generation and load demand of various regions and extensive studies should be undertaken to decide the important trunk lines within the State as well as the inter-State/Regional lines.

Reply of Government

Power flow studies corresponding to load and generation conditions envisaged in 1980-81 with a view to identifying important trunk transmission lines at 220 KV and 400 KV to be constructed in the States as well as the inter-State/Regional lines have just been completed for all the regions. Ultimate establishment of the National Grid is also being kept in view while carrying out these studies. A Task Force for Transmission and Distribution Programme for Fifth Plan has been set up under the Chairmanship of Secretary, Ministry of Irrigation and Power for drawing up the T&D Programme for the Fifth Plan. This Task Force will take into account the programme and details of Power generation and system loads in the Fifth Plan and beyond.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 5-11-73]

Further Information Called for by the Committee

Please intimate if the Task Force for Transmission and Distribution the Fifth Five Year Plan has submitted its report to the Government. If so, a copy of the report along with Government's action thereon may be furnished for the information of the Committee.

[Lok Sabha Sectt. O.M. No. 5|13|1|ECI|73 dated 1-1-74].

Further Reply of Government

The task force on transmission and distribution programme for the Fifth Five Year Plan has submitted its report to the Government. A copy of the report is enclosed as desired. The report is under examination.

[Ministry of Irrigation & Power O.M. No. 32(46)/73-E.L.I. dated 15-1-74]

Comments of the Committee

The Committee would like to be apprised of the action taken by Government on the recommendations made by the Task Force on Transmission and Distribution Programme for the Fifth Five Year Plan.

Recommendation (S. No. 116, Para 5.56)

The Committee recommend that long range planning for the Inter-State/Regional Grid should be devised keeping in view the fact that not only the State system should completely integrate to form regional grids, but also that these grids get adequately inter-connected to form a National Grid, with attendant economic gains to the community at large.

Reply of Government

As recommended by the Estimates Committee, all inter-state/regional links proposed so far for the Fourth and Fifth Plans have been planned keeping in view the ultimate evolution of a National Grid.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 5-11-1973]

Recommendation (S. No. 117, Para 5.71)

The Committee note that upto the end of 1963-69 the investment on transmission and distribution was only Rs. 1340 crores as against Rs. 2240 crores envisaged on power generation. They also note that

during the Fourth Plan an outlay of Rs. 1166.27 crores has been provided for transmission and distribution schemes as against Rs. 1250 crores for generation schemes and during the Fifth Plan an investment of Rs. 7600 crores to be shared equally between generation and transmission and distribution has been proposed.

Reply of Government

The Committee's observation has been noted. The Fifth Plan proposals on power are under finalisation. It is proposed to correct the imbalance between transmission and power generation facilities in regions where such imbalances exist to the extent possible. Larger outlays are being proposed for transmission.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendations (S. Nos. 118, 119 & 120, Paras 5.72, 5.73 & 5.74)

The Committee are distressed to note that the distribution and transmission losses in the country are on the high side. The transmission losses in the country are of the order of 18 per cent to 25 per cent, and in certain States like Punjab the losses are as high as 34 per cent whilst in other countries such losses are of the order of 5.7 per cent to 12 per cent only.

The Committee feel that there is imbalance in the planning of generation *vis-a-vis* transmission and distribution resulting is not only poor voltage conditions in many areas but heavy losses in transmission and distribution.

The Committee feel that investment in transmission and distribution facilities in the country has remained much lower than the desired level and this is one of the chief reasons contributing to higher percentage of losses. More investment does not necessarily mean construction of additional transmission and distribution lines alone; but use of higher transmission or sub-transmission voltages, adequate size of conductors, integrated operation of power system, etc., are factors which would help in reducing the transmission losses substantially.

Reply of Government

The question of reducing the transmission and distribution losses has been constantly engaging the attention of the Government. Field studies carried out recently have revealed that the main reasons for high losses are: the inherently low power factor of agricultural

pumping loads and long lengths of sub-transmission and distribution lines in rural areas. Wherever there has been extensive rural electrification, the power losses are found to be high. It has been found from field experiments in such cases that by improving the power factor by installing shunt capacitors the losses are reduced by nearly 50 per cent. The Ministry have urged the State Electricity Boards that the installation of capacitors should be obligatory with all agricultural pumping sets. The Boards have also been requested to undertake detailed studies in their systems and take urgent measures to bring down the losses to a figure below 14 per cent. Expert assistance in these studies is being given by the Central Power Research Institute where required. The Rural Electrification Corporation has also instituted special loans called 'System Improvement Loans' Specifically for strengthening existing distribution systems so as to minimise the losses and improve system performance such as voltage condition and reliability. These loans will enable the State Electricity Boards to implement the suggestions made by the Estimates Committee regarding improvement by adoption of appropriate voltages, conductor sizes, operating methods etc.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 5-11-73]

Comments of the Committee

The Committee would like to be apprised of the results achieved as a results of the measures taken to reduce the distribution and transmission losses in electricity.

Recommendation (S. No. 121, Para 5.75)

The Committee are in full agreement with Power Economy Committee that saving effected by reduction in energy losses and extra investment required have to be balanced and it may not be economical to reduce the energy losses beyond a certain limit and the losses should be reduced to an optimum value after a techno-economic study.

Reply of Government

The observations of the Committee are noted for future guidance.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Recommendation (S. No. 122, Para 5.76)

The Committee feel that with a view to reduce such losses optimum performance of power system in the country is necessary. The

Committee, therefore, recommend that there should be a continuous watch over the efficiency of operation in the generation, distribution and transmission systems.

Reply of Government

The Committee's recommendation is accepted. Regional load Despatch Stations are being set up in all the Regions for ensuring optimum performance of the power systems in the country. The Load Despatch Stations will also enable a continuous watch being kept on the efficiency of operation in the generation and transmission systems.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. No. 123) Para 5.77

The Committee note that the Central Government have taken up with the State Governments the question of making each Divisional Engineer responsible for watching and reporting the performance of the system under his control in respect of losses. The Committee would like to be apprised of the final outcome in this regard.

Reply of Government

This is a continuous process. The necessary information regarding the results achieved so far is being collected from the State Electricity Boards and will be submitted as early as possible.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Further Information Called for by the Committee

Please intimate if the requisite information has been collected from the State Electricity Boards. If so, a copy thereof along with Government's reaction thereon may be furnished for the information of the Committee.

[Lok Sabha Sectt. O.M. No. 5|13|1|ECII|73 dated 1-1-74].

Further Reply of Government

Replies received from various State Governments/States Electricity Boards are given below:—

- | | |
|--|---|
| 1. West Bengal State Electricity Board | Necessary action is being taken to implement the recommendations. |
| 2. Bihar State Electricity Board . | Recommendations are under study and necessary action is being taken to implement the recommendations. |
| 3. Gujarat State Electricity Board | Do. |

4. Assam State Government The Chief Engineer Assam State Electricity Board has been instructed to implement the recommendations of the power Economy Committee.
5. Andaman & Nicobar Necessary action being taken to implement the recommendations.
6. Mysore State Electricity Board.
 - (i) Recommendations for improvement in transmission lines and distribution system designs is generally being followed.
 - (ii) Proper instrumentation is provided in all major stations. With the establishment of the load despatching station monitoring of this data to the Central point would be achieved.
 - (iii) S.R.E.B. is working out a programme for co-ordinated operation of various Electricity Boards in the South and the Mysore State Electricity Board is extending fullest co-operation in this task.
 - (iv) A vigilance squad with a Superintendent of Police-in-Charge is activity engaged in finding out the theft of energy in addition to the local executive staff of the Department.
 - (v) Every effort is being made both in design and construction procedure to achieve improved operation and maintenance.
 - (vi) Continuous monitoring of system performance and interruption and corrective action at the Divisional level has not been done (presuming that the term division is used in the same spirit as is being used in the department. It is also felt that continuous monitoring system performance at a Divisional level and corrective action at that level may not be feasible in the present system condition. However that is being done taking the Board as a whole and when once the load despatching Centre is established with facilities for monitoring information from important stations it would be possible to take immediate corrective actions from the load despatching station.
7. Orissa State Electricity Board. Necessary action is being taken. The recommendations will be suitably implemented in our system.
8. Arunachal Pradesh Implemented to the extent possible.

9. Tamil Nadu Electricity Board . Implementation of the various recommendations of the Power Economy Committee is under active consideration.
10. U.P. State Government . The State Government has taken up the matter with the State Electricity Board regarding the implementation of the recommendations of the Power Economy Committee.

11. Haryana State Government

An Executive Engineer, Line Losses has been posted at head quarter to keep an overall watch on the line losses of the Board. The respective Executive Engineer of 'OP' Divisions are also responsible for watching the line losses in their divisions. The various steps taken by the Haryana State Electricity Board to keep the Line Losses at minimum possible are as follows:—

(i) A total of 120 MVAR H.T. capacitors have been installed at various sub-stations throughout the State in order to improve voltage conditions to reduce the loading on the transmission lines and feeders, thereby reducing system losses.

(ii) 5000 L.T. capacitors have been installed mostly on tubewell motors which resulted in considerable reduction in losses in the L.T. lines. Another 20,000 L.T. capacities are on order.

(iii) A drive for apprehending cases of theft of energy was started in the Board in 1971-72 and a large number of such cases were apprehended. Heavy penalties were imposed in a number of cases.

(iv) Special pilfer proof meter cup-boards were provided to house the energy meters, which were got sealed at the level of S.D.O.'s in case of tubewell and industrial consumers.

The above measures proved effective in reducing line losses which have been brought down from 27.3 per cent to 23.2 per cent.

Rest of the States are being pursued in the matter. It is submitted that the Centre can give only general guidance about ways and means for reducing losses. The exact manner extent in which various measures are to be implemented must be decided by the Electricity Boards themselves in the light of the circumstances obtaining in their States.

[Ministry of Irrigation and Power O.M. No. 32(46)/73-
E.L.I. dated 15-1-1974].

Recommendations (S. Nos. 124 & 125) Paras 5.78 & 5.79

The Committee would like to draw special attention to the following points of action recommended by the power Economy Committee regarding transmission and distribution losses:—

- (i) Improvements in the transmission and distribution system designs by:
 - (a) Selection of transformers with reference to expected load cycle so as to obtain minimum total fixed and variable losses.
 - (b) Use of low iron loss transformers, particularly for rural areas and areas of low load factor.
 - (c) Reduction in the number of power transformation stages.
 - (d) Improvement of power factor-installation of capacitors etc., at appropriate locations.
 - (e) Selection of appropriate sizes of low tension feeders keeping in view their lengths and load required to be carried.
- (ii) Introduction of proper instrumentation and information collection system at all levels for monitoring of system performance.
- (iii) Integrated operation of power systems including reactive scheduling.
- (iv) Elimination of theft of energy.
- (v) Elimination of miscellaneous losses by improved operation and maintenance.
- (vi) Continuous monitoring of system performance and introduction of corrective action at the divisional level.

The Committee would like to be apprised of the action taken or proposed to be taken by Government on the aforesaid recommendations of the Power Economy Committee.

Reply of Government

The recommendations of the power economy were communicated to all State Electricity Boards for implementation. In respect of transmission and distribution losses, most of the State Electricity Boards including Andhra Pradesh, Haryana, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu have planned/are planning to take the following measures for improving the respective power systems:

- (i) Installation of L.T. Capacitator with the induction motor of tube wells, industrial consumers, etc. The Boards have even indicated the rating of the capacitors for different sizes of motors.
- (ii) Improvement in the existing layout of the systems.
- (iii) Setting up the substations at the centre of gravity of loads.
- (iv) Rigorous checking and calibration of meters at consumer's end.
- (v) Amendment to the provision of the I.E. Act, 1910 so as to provide powers for the Board Engineers to deal with cases of theft of energy.

The Rural Electrification Corporation has offered a scheme of system improvement loans for enabling the Electric Boards to take steps to reduce transmission and distribution losses and to improve the system performance.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Comments of the Committee

Please see Comments of the Committee on reply of Government to recommendations Nos. 118, 119 and 120.

Recommendation (S. No. 126) Para 6.10

The Committee note that a number of State Electricity Boards are running at loss at present though the policy is that on the whole there should be no-profit and no-loss. The Committee feel that at a time when there is widespread demand for power, there is no reason why the State Electricity Boards should not be able to break even by improving the utilisation of their plants effecting economy in overhead expenditure and reducing losses in transmission etc.

The Committee would like the Government to impress on the State Electricity Boards to carry out a detailed cost analysis with a view to pin-pointing the factors which are responsible for loss and take necessary remedial measures.

Reply of Government

The recommendation of the Committee has been communicated to the State Electricity Boards for appropriate action. It is however submitted that losses incurred by the State Electricity Boards are, in a large measure, due to their socio-economic obligations whereby they are required to undertake and sustain rural electrification which is rather unremunerative. The Boards are usually not permitted in time to increase their tariffs to cover the increasing costs.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Comments of the Committee

The Committee would like to be apprised of the action taken by the State Governments and the results achieved.

Recommendation (S. No. 127) Para 6.11

Above all, the Committee feel that the Central Power Plants which are coming up in a big way should be managed most efficiently so as to be able to set an example for the States to follow.

Reply of Government

The Committee's observations have been noted. Every effort is being made for this purpose by drawing upon the talent available in different parts of the country. Proposed restructuring of the power supply industry will also assist by providing the necessary organisation.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. No. 128) Para 6.12

The Committee would like to make it clear that what they are anxious is that power should be supplied at most competitive rates in the interest of development of economy and this should be achieved by improving efficiency and effecting economy in the working of authorities responsible for generation, transmission and distribution of power.

Reply of Government

The Committee's observation has been noted. As already submitted in other replies, a number of measures are being devised for improving the efficiency and economy in the power sector, including restructuring of the power sector itself.

[Ministry of Irrigation & Power O.M. No. 26 (46)/73-E.L. I,
dated 4-12-1973].

Recommendation (S. No. 129) Para 6.13

The Committee note that uniform power tariffs for each category of consumers have been introduced in most of the States and that the States of Rajasthan and Orissa are also taking necessary steps in this direction. The Committee hope that with the establishment of an All India Grid the disparities in the tariff rates in the various States and Regions would be narrowed down.

Reply of Government

The Committee's observations have been noted.

[Ministry of Irrigation & Power O.M. No. 26 (46)/73-E.L.I. dated
2-11-1973]

Recommendation (S. No. 131) Para 7.36

The Committee note that power plays a vital role in development. The Committee would like to stress that for an all round development of rural areas and for bringing about far reaching changes in the methods of irrigation and farming it is very essential to accelerate the pace of rural electrification in the country. In the opinion of the Committee rural electrification is necessary for:

- (i) increasing agricultural production by energising tube-wells as a regular and steady source of irrigation;
- (ii) agro-based industries as well as small scale rural industries in the rural areas;
- (iii) providing employment potential in villages themselves in agro-based and small scale rural industries thereby arresting the drift of population to bigger cities and creating of slums there;
- (iv) providing electrification and lighting facilities etc., in the villages which would not only make the educated persons from the villages not to leave villages but would also

attract doctors and other social and technical workers to the villages by providing the basic amenities like power and light in the villages;

- (v) providing means of better standard of living to the rural inhabitants and farm workers by giving them the benefit of industrialisation etc.

Reply of Government

The advantages of introduction of electricity to the rural areas have been well recognised by States and this is evident from the acceleration in the programme from the Fourth Plan onwards. As the programme of rural electrification is formulated and executed by the State Governments/State Electricity Boards, the observations of the Committee have been brought to the notice of State Governments/State Electricity Boards vide this Ministry's letter No. 42/12/73-PE dated the 4th September, 1973 (Appendix I).

2. Additive finance is also provided to State Electricity Boards for implementation of their rural electrification schemes by the Rural Electrification Corporation which has been set up in the Central Sector. As per the directive given by Government of India the Corporation adopts the project approach in sanctioning schemes. The adoption of project approach involves an assessment of physical resources in the area and requires a sound technical plan to ensure the maximum utilisation of the resources potential. The projects should not only be remunerative but also permit the rural users to earn incremental income to pay for the use of electricity. This is done by integrating the scheme as a part of total development efforts in the areas. The schemes of Rural Electrification Corporation are, therefore, comprehensive to cater to the requirement of agricultural loads, small scale industries, agro industries, commercial and domestic connections. In areas where there is little scope for agricultural pumpsets, but where potential exists for other activities like horticulture, fishery, forestry, animal husbandary etc. schemes are drawn up taking into account such activities. Rural Electrification Corporation seeks to coordinate its activities with other programmes in operation like Small Farmers Development Agencies, Marginal Farmers and Agricultural Labourers Development Agencies intensive Agricultural Development Programme and Rural Works Programmes. Rural Electrification Corporation has also been making

intensive efforts with the State Electricity Boards/State Governments to have effective coordinating machinery set up at project level, District level and state level.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Comments of the Committee

The Committee would like to be apprised of the action taken by the State Governments in this regard.

Recommendation (S. No. 133) Para 7.38

The Committee note that although 23.4 per cent of the villages in the country have been electrified and about 19 lakh pumpsets have been provided in the country, there are wide disparities in the provision of electricity and installation of pumpsets in the various States. While there are States like Haryana and Tamil Nadu where practically every village has been electrified, there are States like Assam where only 3.3 per cent of the villages have been electrified and only 105 tubewells and pumpsets have been energised. Similarly, percentage of villages electrified in Orissa is 7.7 per cent, in West Bengal 12.7 per cent and in 9 other States the percentage is less than the All India average of 23.4 per cent.

Reply of Government

The present All India average of electrification is 25 per cent as on 30-6-1973. The States of Assam, Bihar, Jammu and Kashmir, Madhya Pradesh, Manipur, Meghalaya, Nagaland, Orissa, Rajasthan, Tripura, Uttar Pradesh and West Bengal are below the All India average level of electrification. The comparatively slow progress in these States is due to:—(i) lack of power development; (ii) lack of necessary transmission and Distribution net work, and (iii) lower allocation made in the past by the State for rural electrification. It is not, therefore, possible to ensure uniform development in all the States within a short period. During the Fourth Plan the outlays on rural electrification within the States Plan ceilings have been substantially enhanced to provide for acceleration of rural electrification schemes in the backward States. Good progress has been achieved in the Fourth Plan particularly in the States of Bihar, Orissa, West Bengal, Rajasthan, Madhya Pradesh and Uttar Pradesh.

2. Besides, the Rural Electrification Corporation which has been set up in the Central Sector has provided additive finances for the backward States. The Corporation has been directed to assist the

States which are lagging behind in the matters of rural electrification. The Corporation has so far sanctioned loan assistance of Rs. 144.26 crores to States which are backward. Other important steps taken by the Corporation to assist them are indicated below:—

- (1) The agricultural emphasis in rural electrification scheme has been widened to include forestry, animal husbandry, agro industries and other additional agricultural activities. This would provide special benefits to those backward States where there is greater scope for such activities in addition to energisation of pumpsets.
- (2) The Corporation has introduced a special scheme to sanction loans to State Electricity Boards for extension of high tension transmission lines and all the loans granted so far have gone to the backward States.
- (3) A loan category has been specially introduced for the development of especially under developed hill desert and tribal areas in the country. The backward States would largely be benefited by this scheme.
- (4) The Corporation has also sanctioned 40 schemes covering areas which have predominantly tribal population.

3. The slow progress of rural electrification in the backward States was also examined by the Committee of MPs. which submitted a Report in year 1972. The recommendations of the Committee have already been forwarded to the State Governments/State Electricity Boards for implementation.

4. The reason why the number of backward States has increased from 9 in 1968 to 12 in 1973 is due to the reorganisation of States. Manipur and Tripura which were formerly Union Territories have become full-fledged States and Meghalaya has been formed as a separate State from out of Assam.

5. The need to intensify and accelerate the progress of electrification in the backward States is well recognised and Minimum Need programme during the Fifth Plan is a further step in this direction.

6. It is proposed to constitute another committee to examine in detail the slow progress of rural electrification in the Eastern States and to suggest measures needed.

7. The observations of the Committee have been brought to the notice of the State Governments/State Electricity Boards requesting

them to take measures in order to accelerate the pace of rural electrification in their respective States.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Comments of the Committee

The Committee note the steps taken by Government to step up the progress of rural electrification in the backward States which are lagging behind in the matter of rural electrification. The Committee desire that a close watch should be kept to ensure that there is no slackness on the part of the State Governments concerned regarding the progress of rural electrification programme for want of Central assistance and in implementing the recommendations made by the Committee of M.Ps.

The Committee would like to be apprised of the findings of the Committee proposed to be set up to examine in detail the slow progress of rural electrification in Eastern States and the action taken by Government thereon.

Recommendation (S. No. 134) Para 7.39

The Committee regret to note that inspite of the various steps taken by the Government to provide incentives for the rural electrification of backward areas, the number of States whose percentage was less than the all India percentage in the matter of rural electrification has increased from 9 in 1968 to 12 in 1973, and these backward States have not been able to come up to the all India standard. The Committee cannot but conclude that the steps taken and the special assistance provided so far for the rural electrification of backward areas have been far from adequate and would require to be further intensified and increased. The Committee recommend that the problems of the backward States in regard to slow progress of rural electrification should be examined in detail and concrete measures taken to accelerate the pace of rural electrification in these States.

Reply of Government

Please see reply under item No. 133 (7.38).

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Recommendation (S. No. 135) Para 7.40

It has been suggested before the Committee by the representative of the Government that rural elctrification programme has not been

able to make much headway in some of the States because of deficiencies in organisation. It has also come to the notice of the Committee that some of the States have remained backward in the matter of rural electrification because State Governments concerned have not accorded proper priority to the rural electrification programme and have not taken sufficient steps to activate the organisation in their States at the field level. The Committee recommend that the Central Government should impress upon all the State Governments, the immediate necessity of according proper priority to the rural electrification programme and to gear up organisational set up at the field level. The Committee recommend that the Union Ministry of Irrigation and Power and Planning Commission should depute Study Teams to the States which are backward in the matter of rural electrification, to impress upon and render necessary assistance to the authorities concerned to take immediate steps in the matter.

Reply of Government

The need for according proper priority to the rural electrification programme and to gear up the organisational set up at field level has been brought to the notice of State Governments/State Electricity Boards. The recommendations of the Committee that Study Teams should be deputed to the States which are backward has been noted and it is proposed to form a Committee to visit the Eastern States which are lagging behind in the matter of rural electrification.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Recommendation (S. No. 136) Para 7.41

The Committee note that so far the States have laid more emphasis on generation than on transmission and distribution of power in the various States, with the result that it has created a serious imbalance all over the country and even if power is available, the same cannot reach rural areas because of the absence of transmission lines. The Committee have before them the example of the States of Orissa and Bihar where it is difficult to provide power in the rural areas as transmission lines have not been laid there. The Committee recommend that wherever schemes for the generation of power are initiated, effective measures should also be taken to lay transmission lines well in advance of such generation so that as soon as power is available, the transmission lines are also ready to distribute the power to the consumer.

Reply of Government

The Committee's recommendation is accepted. A balanced development has been envisaged for the generation, and transmission and distribution during the Fifth Five Year Plan and will be continued in the subsequent plans. Relatively larger proportion of outlay has been proposed for transmission. Care will also be taken to arrange the construction schedules in such a manner that the completion of transmission facilities matches with the commissioning of power generation units.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (S. No. 137 Para 7.42)

The Committee note that in a number of villages where electricity has been provided, the 'Harijan Bastis' in those villages were not electrified because of unremunerative loads in those areas. The Committee further note that the Government of India have introduced since December, 1971, a special scheme for electrification of such "Harijan Bastis" and for that purpose loan assistance at concessional terms is being provided through the agency of Rural Electrification Corporation to the State Electricity Boards. The Committee recommend that the provision of public lighting to the economically weaker sections of the society particularly in the Harijan and Adivasis areas and 'bastis' should be given special consideration by the Government and if necessary, further incentives, viz., interest free loans etc., should also be given to the State authorities concerned for this purpose.

Reply of Government

The Government of India have already recognised that the provision of street lighting to economically weaker sections of the society particularly for Harijan and Adivasi areas and bastis should be given special consideration. Accordingly, a provision of Rs. 5 crores during the Fourth Plan has been made for giving loan assistance against specific schemes of provision of street lighting in Harijan Bastis adjacent to electrified villages with street lights but where the Harijan bastis were left out. In the Fifth Conference of the Chairmen, State Electricity Boards, a resolution was passed that in all future schemes of village electrification whenever a village is electrified for general purposes, the Harijan/Backward community basti (s) of the village should be automatically covered. As a special feature, as part of the programme of the Silver Jubilee Year of the country's Independence, instructions were issued to State Govern-

ments|State Electricity Boards to electrify one Harijan basti per day in every State of the country during the Silver Jubilee Year, i.e. from 15-8-1972 to 14-8-1973. The Rural Electrification Corporation has instructed that while formulating schemes, provision should be included for street lights in Harijan Bastis adjacent to villages included for electrification in the scheme. In addition to the above the Minimum Needs Programme will also have priority in the backward areas. Many of the schemes for rural electrification under the Minimum Needs Programme in the Fifth Plan, therefore, are expected to cover the electrification of tribal areas too.

2. According to the scheme introduced by Government of India in December, 1971 for providing electricity to Harijan Bastis in villages already electrified mentioned above, loan assistance is being made available on concessional terms through the agency of Rural Electrification Corporation to the State Electricity Boards. The loan carries an interest of 5 per cent annum and is to be repaid in 15 years. The other loans sanctioned by Rural Electrification Corporation carry higher rate of interest of $6\frac{1}{4}$ per cent per annum for first 10 years, $7\frac{1}{4}$ per cent per annum for next 5 years and $8\frac{1}{4}$ per cent per annum for next 5 years. Besides, the funds given by Government for this purpose to Rural Electrification Corporation in the form of a loan carry an effective rate of interest of $4\frac{1}{4}$ per cent per annum only. Thus the programme of extension of electricity to Harijan Bastis is already subsidised by Government of India.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Recommendation (S. No. 138 Para 7.43)

The Committee would, however, like to add that mere electrification and provision of pumping sets/tubewells in villages will not be able to achieve the desired results and the concept of rural electrification has to be understood in the wider perspective of all round development of areas where electrification has been done. To achieve the maximum results, the Committee feel that the programme of rural electrification has to be dovetailed with a well coordinated programme of establishment of rural industries and widespread growth of infra-structure like transport, forestry, agro-based industries, etc. The Committee have no doubt that if the programme of rural electrification is suitably coordinated with national and regional development plans, it will not only lead to reduction in imbalances in regional development but would also lead to increased consumption of power by rural people thereby making rural electrification a viable proposition.

Reply of Government

The programme of rural electrification is formulated and implemented by the State Electricity Boards/State Governments. The observation made by the Committee has been brought to their notice.

In regard to the schemes being sanctioned by the Rural Electrification Corporation, a project concept is already being adopted and in the formulation of schemes a coordinated approach is being insisted upon.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Recommendation (S. No. 139 Para 7.44)

The Committee consider that effective and well-coordinated measures should be taken for increasing consumption of electricity in rural areas. This can be done if agro-industrial centres and rural industrial estates for manufacture of articles of use for farmers like pumpsets, agricultural implements etc., are set up simultaneously in rural areas where rural electrification has been provided by proper coordinated and integrated plans. The Committee consider it necessary that the suitable maintenance, repair and operational facilities for pumpsets and electric gadgets should be encouraged to be set up in the rural areas where rural electrification has been provided. This will go a long way in making use of electricity, popular among masses and would also ensure maximum utilisation of electric power for production purposes. The Committee further recommend that proper training facilities should be provided to local people so as to make them proficient in the work of maintenance, repair and operational facilities, so as to avoid dependence on outsiders.

Reply of Government

The recommendations of the Committee have been communicated to the State Governments/State Electricity Boards.

The need to provide suitable maintenance, repair and operational facilities for pumpsets has been engaging the attention of Government.

1. The Central Water and Power Commission have brought out in 1972, guidelines for operation, maintenance and repairs to agricultural pumpsets. This publication has been supplied to the State

Electricity Boards with a request that it may be translated in the local languages and made available to all the users.

2. Agro service centres are also being set up in the various States under a programme of the Ministry of Agriculture. The functions of these centres *inter-alia* include installation and servicing of pumpsets.

3. In the Fifth Conference of State Ministers of Irrigation and Power held in September, 1970, it was recommended that the arrangements may be made for attending promptly to the repairs of agricultural pumpsets and consumers installations in rural areas involving standard rates for repairs. The recommendation was brought to the notice of the various State Governments/State Electricity Boards. On further detailed consideration, however, it was generally felt that the State Electricity Boards should concentrate their energies on making adequate and reliable power supply available in the rural areas and that the repair and maintenance facilities can be provided by local entrepreneurs. This is in line with the recommendations of the Committee. The recommendation regarding training facilities to local people is being followed up.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Further information called for by the Committee

Please intimate the specific action taken to provide maintenance, repair and operational facilities for pumpsets and electric gadgets in the rural areas where rural electrification has been provided.

Please also intimate the specific action taken by the State Governments/State Electricity Boards for making adequate and reliable power supply available in the rural areas and for providing repair and maintenance facilities by local entrepreneurs.

[Lok Sabha Sectt. O.M. No. 5|13|1|ECII|73 dated 1-1-74]

Further Reply of Government

Wherever large number of pumpsets are operating in a given area local entrepreneurs are coming forward to establish such repairs centres. In respect of schemes financed by the R.E.C. repair and operational facilities for pumpsets is ascertained before sanctioning the projects.

The supply of electric power to agriculturists for energising their pumpsets for irrigation purposes is given the highest priority by

the various State Electricity Boards. In cases of shortage of power, efforts are made to supply as much power as possible to the various sectors, including the agricultural sectors, depending upon the availability of power and relative priority of the different sectors. This will be clear from the recent shortages experienced in a number of States where State Electricity Boards took steps to cut down the energy consumption in various sectors so that they can supply power to the agriculturists to the extent it is feasible within the overall availability of power. Due to shortage of power, sometimes restering has to be resorted to. This, however, is done in a planned manner and is carried out in such a way so as to have minimum effect on the total production.

[Ministry of Irrigation & Power O.M. No. 32(46)/73-E.L.I. dated 15-1-1974]

Recommendation (S. No. 141 & 142 Paras 7.46 and 7.47)

The Committee note that although a number of new projects for the generation of power have been taken up, the rural areas have not been getting their due shares and in case of reduction or failure in supply of power, rural areas are always worst hit, and supply of power in these areas is adversely affected. The Committee recommend that a fixed percentage of power generated in a State should be earmarked for the rural areas and it should be ensured that rural areas get their proportional share of power even in case of reduction in the supply of power.

The Committee note that while power is being supplied to industries etc., on a cheap rate, no such concessioin is being allowed to the rural areas for agricultural purposes. The Committee fail to understand why in view of the importance that agriculture occupies in the country's economy, such concessions should not be allowed to the agriculturists particularly in view of the increasing need for more production of food grains etc. The Committee recommend that steps should be taken by Government to supply power to Agriculturists at rates comparable, if not cheaper, to the industries.

Reply of Government

The observation of the Committee is noted.

Please refer to the reply under recommendation No. 130.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Further information called for by the Committee

Please intimate the specific action taken for earmarking the power generated for rural areas and to supply power to Agriculturists at comparable rates.

(Lok Sabha Sectt. OM No. 5|13|1|E.C.II.73, dated 1-1-74)

Further Reply of Government

The recommendations of the Estimates Committee have already been communicated to the various State Electricity Boards for compliance in this regard.

[Ministry of Irrigation & Power O.M. No. 32(46)|73-E.L.I. dated 15.1.1974]

Comments of the Committee

The Committee would like to be apprised of the action taken by the State Governments in this regard.

Recommendation (S. No. 143 Para 7.48)

The Committee note that a perspective plan for the decade commencing from April, 1971 to March, 1981 for rural electrification with emphasis on energisation of pumpsets, for increasing agricultural produce has been drawn up. The Plan provides for the electrification of 3.4 lakh villages representing about 60 per cent of the total villages and energisation of 48.7 lakh additional pumpsets by the end of 1981. The Committee note that the total outlay involved in the implementation of the Plan is estimated at Rs. 2270 crores and about 265 crores annually would have to be provided for the seven year period (1974—81). The Committee recommend that in view of the urgent need for rural electrification for the development of rural areas the necessary allocation of funds may be made.

Reply of Government

The outlays for the programme of rural electrification have necessarily to depend upon the overall resources position of the country. Increasing allocations are being made as can be seen from the outlays provided in successive plans:—

	Rs. in crores
First Plan	8.27
Second Plan	75.00
Third Plan	153.00
Annual Plans (1966-69)	227.00*
Fourth Plan	444.69 (including Rs. 150 crores under (REC))

* Including funds raised by State Electricity Boards from Financing Institutions such as L. I. C., A. F. C., A Refinance Corporation and Commercial Banks.

2. The actual expenditure on Rural Electrification in the State Plans is expected to reach Rs. 405 crores in IV Plan as against provision of Rs. 290 crores. Besides financial assistance from banking institutions, assistance from LIC is estimated to be Rs. 150 crores against the original estimate of Rs. 75 crores. The loan assistance from R.E.C. is expected to be Rs. 170 crores. The total expenditure in IV Plan would thus be Rs. 725 crores as against the original expectation of Rs. 520 crores. The Fifth Plan is under formulation and it is expected that the outlay will be substantially enhanced as compared to Fourth Plan. Financial assistance from banking institutions will also be available.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I., dated 2.11.1973]

Recommendation (S. No. 146 Para 7.51)

The Committee of Members of Parliament had also suggested that enhanced targets of electrification of villages and pumpsets in backward States should be supported by provision of necessary funds and the additional outlay asked for by the Rural Electrification Corporation should be granted to the Corporation. The Committee hope that rural electrification programme in the backward States will not be allowed to suffer because of shortage of funds.

Reply of Government

During the year 1972-73, additional loan assistance has been given to various States under the Emergency Agricultural Production Programme. This *inter alia* included provisions for scheme for energisation of pumpsets also. The allocations for rural electrification for the backward States were as follows:—

Name of State	Amount allocated for Energisation of Pumpsets. (Rs. in crores)
Assam	1.00
Bihar	5.52
Madhya Pradesh	2.50
Manipur	0.34
Nagaland	0.10
Orissa	1.75
Rajasthan	2.77
Tripura	0.17
Uttar Pradesh	13.55
West Bengal	3.00

Considering the available organisation and also additional allocations that were made under the Emergency Agricultural Production Programme it is felt that additional outlay in the Fourth Plan is not likely to yield higher benefits. The recommendation has been brought to the notice of Planning Commission to be kept in view while formulating the proposals for the Fifth Plan.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I,
2.1.1973].

Recommendation (S. No. 147 Para 7.59)

The Committee note that in order to supplement the efforts of the State Electricity Boards in the matter of distribution of power, 5 Rural Electric Cooperatives have been set up, one each in the States of Andhra Pradesh, Gujarat, Maharashtra, Mysore and Uttar Pradesh and these Cooperatives have already started work on projects which after completion, will provide electricity to 729 villages, energise 27,605 pumpsets and supply power to 1,553 small industries. The Committee further note that these Cooperatives have shown progress in their work and their performance had been quite satisfactory and these Cooperatives have already electrified 217 villages and given connections to 451 agriculturists. The Committee note that Government are considering the question of promoting a few more Cooperatives by the Rural Electrification Corporation.

Reply of Government

A Committee was set up by the Rural Electrification Corporation to examine the working of the existing Co-operatives and also to make recommendations for setting up of new Co-operatives. The Committee has submitted its report in May, 1973. The Committee has recommended that a larger programme of Rural Electric Co-operatives may be organised in the Fifth Plan. The Rural Electrification Corporation has initiated action based on these recommendations.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I,
2.1.1973].

Recommendation (S. No. 148 Para 7.60)

The Committee note that some difficulties have been experienced in the working of these Cooperatives viz., high percentage of line losses and financial losses in the retail distribution of power. A Departmental Committee headed by an officer of the Planning Commission has been set up to suggest guidelines for improving the

working of these Cooperatives. The Committee hope that urgent action would be taken on the recommendations of this Departmental Committee so as to streamline the working of these Cooperatives.

Reply of Government

The Committee set up by Rural Electrification Corporation has since submitted its report on the working of the existing Co-operatives in May, 1973. The Committee has analysed the working of the existing five societies and has suggested broad guidelines for future cooperatives as well as for those already on the ground. The two basic factors affecting the financial viability of the rural electric cooperatives are line losses and uneconomic tariff for purchase of power. The Corporation has already taken the following action to reduce line losses in the existing cooperatives:—

- (a) On the basis of the experience of rural electric cooperatives, R.E.C. has introduced a system improvement loan which could be availed of by State Electricity Boards for effecting reduction in line losses in rural distribution. The State Electricity Boards have also been advised to avail themselves of this facility, on a priority basis, for improving the distribution system in cooperative areas. Loans have been sanctioned by the Corporation to the Maharashtra and Andhra Pradesh State Electricity Boards for improving the supply position to rural electric cooperatives in these States.
- (b) The Co-operatives have also been advised to revise their project reports providing *inter alia* for outlay on improvement to the existing system also. The two societies viz. the Mula Pravara Society in Maharashtra and the Lucknow Rural Electric Co-operative Society in Uttar Pradesh, have accordingly sent their revised project reports to the Corporation.
- (c) All the Co-operatives have been advised that their managements should review the line losses feederwise and make the staff responsible for it and, for this purpose, the staff should be allocated feeder-wise and made responsible for patrolling, resting and checking of meters, meter reading and review of consumption.
- (d) The R.E.C. had also conducted training classes for the technical personnel of rural electric cooperatives regarding use of improved tools, meter reading, meter check-

ing etc. with a view to improving the general efficiency of distribution as also for controlling the line losses.

- (e) The line losses were the heaviest in Mula Pravara Society being of the order of 48.29 per cent upto 31st March, 1972; this figure has been brought down to 40.6 per cent during 1972-73 and further to 36.9 per cent for the first two months of 1973-74.

The following action has been taken by the Corporation to improve the financial viability of the Societies:— !

- (a) A crucial aspect influencing the financial viability of these societies is the rate at which they are supplied power from the respective State Electricity Boards. In the case of three cooperatives viz. Hukeri in Mysore, Mula Pravara in Maharashtra and Kodinar in Gujarat it was found that the State Electricity Boards were supplying power to the cooperatives at a rate higher than that assumed by them for their rural electrification schemes financed by the R.E.C. The Corporation had, therefore, taken up with the electricity Boards the question of reducing the tariff to the cooperatives to the level assumed by them for their own rural electrification schemes. The Mysore State Electricity Board has already agreed to reduce the tariff from an average 7.4 paise per unit to 5.5 paise per unit. In principle, the Maharashtra State Electricity Board has also agreed to reduce the tariff. The R.E.C. is still pursuing the question with the Gujarat State Electricity Board for reduction of tariff.
- (b) At the instance of the Rural Electrification Corporation, the Maharashtra Government as also the Maharashtra State Electricity Board have each contributed Rs. 5 lakhs to the share capital of the Mula Pravara Rural Electric Cooperative to improve its financial viability.
- (c) The State Governments of Andhra Pradesh and Mysore have been informed that a pre-requisite for sanction the losses incurred by rural electric co-operatives. This principle is sought to be applied by the Rural Electrification Corporation to other cooperatives also.

With the various measures being taken by the Rural Electrifica-

tion Corporation it is expected there should be a perceptible improvement in the working of the existing Societies.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I,
2.11.1973]

Recommendation (S. No. 149 Para 7.61)

The Committee recognise the importance of Rural Electric Co-operatives in the decentralised retail distribution of electricity and in promoting direct participation of users in this task. The Committee would like Government to encourage setting up more co-operatives and maximise their number in the country. They would, however, like to stress that as some difficulties have been experienced in the working of Rural Electric Cooperatives already set up by Government, which are being examined by a Departmental Committee, Government should lay down firm guidelines in the light of this evaluation, for the benefit of such cooperatives so as to avoid the repetition of the mistakes in the working of Rural Electric Cooperatives.

Reply of Government

On the basis of the recommendations made by the Committee on Rural Electric Co-operatives, the Rural Electrification Corporation has already issued broad guidelines to State Governments, State Electricity Boards etc., for organisation of new Co-operatives. These guidelines seek to eliminate the difficulties that had affected the working of existing Co-operatives. The basic principles underlying the formation of new Co-operatives suggested to the State Governments are:—

- (a) a cooperative should be financially viable and capable of repaying the loans;
- (b) the jurisdiction of a society may extend to a taluka or about 2 blocks, and the capital outlay may be of the order of Rs. 150 lakhs;
- (c) there should be an effective link between the cooperative on the one hand and the State Electricity Board and the State Government on the other and this should be reflected in their participation in the equity capital of the co-operative, which would also improve the financial viability of the society;
- (d) the State Electricity Board should charge a realistic tariff to the cooperative for energy sold, which would render

the society financially viable assuming a reasonable degree of efficiency; and

- (e) the State Government should agree to subsidise the losses, if any, incurred by a cooperative.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I., dated 2.11.1973]

Recommendation (S. No. 150 Para 7.62)

The Committee would further like to caution the Government that a number of Cooperatives set up in the country under the co-operative movement have been suffering from organisational weaknesses and are not able to discharge their functions, effectively. The Committee would like Government to ensure that these Rural Electric Cooperatives are not allowed to suffer from similar organisational weaknesses and their working should be reviewed from time to time and corrective measures taken in time to keep them active so that they may be able to fulfil their role in the rural electrification programme of the country effectively. It should also be ensured that the over-heads of these Cooperatives are kept to the minimum.

Reply of Government

In order to remove the organisation weaknesses as also to keep the overheads expenditure of the cooperatives to the minimum, the Rural Electrification Corporation have already issued the following instructions to the State Governments:—

- (a) The entire Board of Directors of the future cooperatives, for the first five years, should be nominated by the Government with the Collector of the district or a senior officer of the State Cooperative Department/State Electricity Board, Zila Parishad as Chairman, Representatives of State Electricity Board R.E.C., State Cooperatives, Agriculture and Industries Department may also be on the Board of Management;
- (b) A Joint Registrar of Cooperative Societies or an Executive Engineer should be appointed as General Manager who should be an ex-officio Director of the Board;
- (c) In respect of existing cooperatives also, the societies have been requested to amend their bye-laws to provide a representative of Rural Electrification Corporation on their Board of Management;

- (d) The studies conducted of the existing cooperatives show that the percentage of operation and maintenance expenses to the capital outlay is comparatively less than in the corresponding State Electricity Boards. Even so, the cooperatives have been advised to periodically review their overheads with a view to bringing them down.

[Ministry of Irrigation and Power O.M. No. 26(46)73-E.L.I., dated 2-11-1973]

Recommendation (S. No. 151) Para 7.63

The Committee would like to suggest that in order to keep a watch on the proper functioning of the Rural Electric Cooperatives, representatives of the Rural Electrifications Corporation and State Electricity Boards concerned should also be represented on the Managing Committees of these Cooperatives. Moreover, these Cooperatives should be required to furnish quarterly reports on their working to the Rural Electrification Corporation which should monitor these Reports so as to ensure their smooth and efficient working. The accounts of these Cooperatives should also be got audited by the competent Auditors.

Reply of Government

The State Electricity Boards are already represented on the Board of Management of the existing Rural Electric Cooperatives. The existing cooperatives have also been requested to amend their bye-laws to provide for a representative of Rural Electrification Corporation on their Board of Management. For few cooperatives it is envisaged that a representative of Rural Electrification Corporation would also be included on the Board of Management. As regards audit etc. the following arrangements have been made:—

- (i) The Corporation is now receiving monthly as well as quarterly progress reports from these cooperatives. Besides, senior officers of the Corporation visit these societies periodically to render advice on technical, financial and administrative problems;
- (ii) The audit of a cooperative is the statutory function of the Registrar of Cooperative Societies under the State Cooperatives, Legislation. Further, on the advice of the Rural Electrification Corporation, all the societies have introduced a system of concurrent audit;

- (iii) The Rural Electrification Corporation also conducted a short term training course for the accounts personnel and auditors of the rural electric cooperatives.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I., dated 2.11.1973]

Recommendation (S. No. 152) Para 8.24

The importance of research and testing facilities in the growing field of power development in the country, cannot be too strongly emphasised. Research is necessary for achieving economy, quality control and standardisation in construction, generation, transmission, distribution and superior performance of the power supply system. Collection of technical information and basic data for the efficient and economic design and construction of extra high voltage lines, after taking into account the conditions prevailing in our country, is also necessary. There is thus much scope for research in power engineering in the country.

Reply of Government

The recommendation is very timely and is accepted.

The importance of stepping up research and development activities in the field of Power is fully recognised and provisions for important research projects are being made in the Fifth Plan within the available resources.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I., dated 5-11-1973]

Recommendation (S. No. 156) Para 8.28

The Committee note that there are variations in the information furnished to the Committee and in the various publications brought out by the Ministry regarding the estimated expenditure guarantee of U.N. assistance and dates of completion and commissioning of the Institute. It appears that adequate care has not been taken to present full and accurate information in this regard. The Committee would like the Government to work out the details of the schemes in the very beginning itself and present a complete picture in the various publications brought out by it for the information of public and Parliament. The Committee need hardly point out that the information furnished should not only be correct but uniform; and if there are any variations due to any reasons the same should be fully explained.

Reply of Government

The Committee's observations have been noted for guidance and necessary action. The manner of presentation of data, system of units to be used and other related matters are being standardised to ensure uniformity and accuracy in the presentation of information. Instructions are also being issued to all concerned, stressing the importance of working out the details of schemes at as early a stage as possible.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I, dated 4.12-1973]

Recommendations (S. Nos. 157, 158 & 159) Paras 8.40, 8.41 & 8.42

The Committee note that the Central Board of Irrigation and Power coordinates the activities of the various Research Units. Besides the two Units of the Central Power Research Institute, research on power engineering is also being done by the Research Units of States Electricity Boards and Educational Institutions in the country. From the information furnished to the Committee, it appears that the Institute has so far carried out research on about 9 problems, some of which are stated to have yielded good results. The Institute has also obtained two patents so far. In addition, 12 problems are being studied by the 18 Research Units of State Electricity Board and Educational Institutions, expenditure on which is met from grants-in-aid released by Government on the recommendation of Central Board of Irrigation and Power.

The Committee feel that very little has been done in the matter of research on power engineering so far. This view is also supported by the Power Economy Committee which has stated that "one important factor retarding the growth and vitiating the functioning of power supply industry in an optimum manner is the gross inadequacy of the research and development activities". The State Electricity Boards have also considered the research programmes inadequate and have stressed the need of larger research and development programmes for power engineering. Considering the heavy investments made/proposed to be made for the development, generation, transmission and distribution of power in the country, the Committee feel that there is an urgent need for large scale increase in the research and development programme for power engineering in the country so that the various problems of power engineering can be solved expeditiously. Some of the problems requiring immediate attention are:

- (i) rising cost of electric energy in the country;

- (ii) high cost of electric plant and equipment manufactured indigenously;
- (iii) need for self-reliance and import substitution of spares and components as well as avoidance and dependence on foreign sources for spares etc.;
- (iv) frequent break downs in generation and transmission and the need to avoid recurrence thereof;
- (v) heavy losses in transmission and distribution of power, particularly, in rural electrification systems;
- (vi) need for economy in the equipment, construction practices and designs for rural electrification programme to enable cheaper power supply to rural areas; and
- (vii) Designing for "Thermal and Hydel Stations" as also Atomic Power Stations.

The Committee recommend that Government should prepare short term and long term programme to intensify research activities so as to meet the current and the future needs in this important field.

Reply of Government

The observations of the Committee have been noted. The Government accepts the recommendations for intensifying the research activities and preparation of short-term and long-term programmes thereof. It is respectfully submitted that some of the problems mentioned in para 8.41 pertain to areas other than research such as design and development and techno-economic or management studies. These would also be attended to through the appropriate organisations. The proposals for 5th Plan which are under consideration, include extension of the areas of research work and also intensification of the research activities.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 4-12-1973].

Recommendations (S. Nos. 161, 162 & 163) Para 8.44, 8.45 & 8.46

The Committee realise that research is a slow process and takes time to produce results capable of being utilised. It is, therefore, necessary that research programmes of the Institute as well as the research units of the State Electricity Boards particularly long term programmes should be anticipated as far as possible and spelt out in clear terms well in advance to enable the units to organise their research programmes accordingly. The perspective research

plan for power engineering should be integrated with the development of power within the country over the next 10 to 15 years. This plan should be widely circulated among the concerned industries, State Electricity Boards, user departments, universities, eminent engineers etc., and their suggestions invited so that the plan and programmes included therein could be improved upon and duplication of research efforts among various units obviated.

The Committee would like to emphasise that greatest care should be taken at the time of selecting research projects. The project should be problem-oriented and should be such as would yield quick results. In selecting the projects, full consultation and coordination should be maintained with the State Electricity Boards and the Electrical manufacturing Units. The Committee would further suggest that in the Annual Reports of the Institute, broad indications of the money and time required for the completion of individual projects selected for research should be indicated so as to enable Government to assess the requirements with reference to outlays and time factor.

The Committee suggest that after the problems have been identified, these should be distributed on a rational basis to the research institutions having regard to their resources and experience so as to avoid duplication as far as possible and getting the best results in the shortest time. The Committee would also suggest that the progress made in these research assignments should be reviewed by a competent technically qualified body from time to time say once in six months so that timely action could be taken as necessary in the interest of speeding up progress.

Reply of Government

The comprehensive observations of the Committee in regard to planning and conduct of research activities in the power sector have been noted. The recommendations are accepted. Necessary instructions are being issued to the Central Board of Irrigation and Power Research Institute for compliance in regard to the recommendations about selection of research projects and reporting thereon in the Annual Reports. Setting up of competent technically qualified body for review of progress in research assignments is under consideration.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 4-12-1973].

Further information called for by the Committee

Please intimate if a final decision to set up a competent technically qualified body to review the progress in research assignments has been taken.

[Lok Sabha Sectt. O.M. No. 5|13|1|ECII|73 dated 1-1-1974].

Further Reply of Government

Setting up of a competent technically body for review of progress in research assignments has already been envisaged under the proposals for restructuring and re-organisation of the power supply industry.

[Ministry of Irrigation and Power O.M. No. 32(46)|73-E.L.I.
dated 15-1-1974].

Recommendation (S. No. 164) Para 8.47

The Committee would like to point out that research institutes have a tendency to go in for pure basic research work. The Committee would suggest that only basic research work should be taken up at the Institute and the Research Units of the State Electricity Boards which is necessary for supporting the applied research in hand. Detailed information should also be given in the annual report of the Institute about the proportion of basic and applied research work done in the Institute so that a watch could be kept on the progress made in this regard.

Reply of Government

The research work being carried out in the Central Power Research Institute and in the Research units of the State Electricity Boards is mostly 'applied' research, relating to problems of generation, transmission and distribution. The work done in the Research Units of the State Electricity Boards mainly relates to field studies and it complementary to the work being done in the Central Power Research Institute.

The recommendation in regard to contents of the annual reports is accepted and has been communicated to all concerned for necessary action.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 5-11-1973].

Recommendation (S. No. 165) Para 8.48.

The Committee further consider that maximum benefit from research would be possible if periodical assessment of the results

achieved and progress made is carried out with reference to expenditure and estimated future cost. This would encourage cost consciousness not only among higher management but also among those who are directly responsible for individual projects.

Reply of Government

The Committee's views have been noted. The Central Board of Irrigation and Power have set up a Standing Committee to review the results achieved by the research units and give necessary guidance.

Similar action will be taken in respect of the Central Power Research Institute and other units working on Power and allied research.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 5-11-1973].

Recommendation (S. No. 166) Para 8.49

The Committee would further recommend that when a process has been developed by the Research Institute successfully and a patent taken, effective measures should be taken for its expeditious commercial exploitation. Successful processes should also be widely publicised to stimulate interest among the industry and the users.

Reply of Government

Appropriate measures would be taken to expedite Commercial exploitation. Assistance in the matter of exploitation of the results of research would also be obtained from the National Research Development Corporation of India.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 4-12-1973].

Recommendation (S. No. 167) Para 8.50

In regard to the problems referred to the Institute by the users industries and State Electricity Boards, utmost efforts should be made to find workable solution to the problem and communicate them urgently to the concerned bodies so as to gain their confidence.

Reply of Government

The recommendation is accepted. Suitable instructions have been issued to Central Power Research Institute in the matter.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 5-11-1973]

Recommendation (S. No. 168) Para 8.51

The Committee suggest that it would be useful if a periodical evaluation of the research work done by the Institute and the Research Units of State Electricity Boards as well as universities is undertaken every five years by Government through an independent Committee as such as evaluation would provide an objective and independent assessment of the working of the research programme and would act as a stimulant to its functioning.

Reply of Government

Observation of the Committee is noted. It is proposed to tie up the periodical evaluation of the research recommended under this item with the review of research work recommended by the Committee in para 8.46 (item 163) of the Report.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973].

Further Information called for by the Committee

Please intimate the specific action taken by Government to undertake evaluation of research work done by Institutes and Research Units of State Electricity Boards as well as universities every five years through an independent body.

[Lok Sabha Sectt. O.M. No. 5|13|1|ECII|73 dated 1.1.74].

Further Reply of Government

As already submitted this work is also proposed to be tied up with a review of research work recommended by the Estimates Committee in para 8.46 of the report.

Setting up of a competent technical body for review of progress in research assignment has already been envisaged under these proposals for restructuring and re-organisation of the power supply industry.

[Ministry of Irrigation & Power O.M. No. 32(46)/73-E.L.I. dated 15-1-1974].

Recommendation (S. No. 169) 8.87

The Committee note that Government have set up two Thermal Power Station Personnel Training Institutes—one at Neyveli in 1965-66 and the other at Durgapur in 1968-69. While the Neyveli

Institute imparts training to the supervisory officers, the Durgapur Institute imparts training to the technicians engaged in operation and maintenance of thermal power stations. The Committee further note that the intake of trainees at Neyveli and Durgapur, which was 28 and 27 respectively has been increased to 50 and 100 respectively to meet the requirements of the Fourth Plan. Till 1971-72, 199 supervisory officers have been trained at Neyveli and 193 technicians at Durgapur. The Committee note that for the increased generation capacity during the Fourth Plan, 1600 trained engineers and 4500 technicians would be required for proper maintenance and operation of thermal power stations. The Committee are concerned to note that against such a large requirement of trained personnel, the actual personnel of both categories trained so far have been very much less and at this rate it would not be possible for Government to train more than 150—200 personnel in both Institutions during 1972-73 and 1973-74 resulting in heavy shortages in the number of trained personnel for operation and maintenance of Thermal Power Stations.

Reply of Government

This Ministry is already taking vigorous steps to ensure that the facilities for training of personnel available at the Neyveli and Durgapur Thermal Power Institutes are utilised fully. The requirement of trained personnel for operation and maintenance of Thermal Power Plants is being assessed. Government is considering establishment of more Technical Institutes and expansion of the existing training facilities at Neyveli and Durgapur. In order to accelerate the training programme for meeting the large needs in respect of operating personnel, introduction of simulators is also being considered.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 5-11-1973].

Comments of the Committee

The Committee would like to be apprised of the assessment made with regard to the requirements of the trained personnel for operation and maintenance of Thermal Power Plants and the steps taken for the establishment of more technical institutes and expansion of the existing facilities at Durgapur and Neyveli Thermal Power Institutes.

Recommendation (S. No. 170) Para 8.88

The Committee regret to note that even the capacity of the institutes which is sanctioned at 50 and 100 trainees respectively, is

being utilised only at about 50 per cent. The Committee would like to point out that the general shortage of trained technical personnel for operation and maintenance of Thermal Stations, was admitted by the representative of the Ministry. Even the Minister has admitted the shortage of experienced technicians and has admitted the need for more training centres to make up the deficiency. The Committee fail to understand why it was not possible for Government to utilise the existing capacity of the two institutes and set up more institutes to make up the shortages of trained manpower which is essential for the efficient operation and maintenance of Thermal Stations and thereby ensuring continued supply of power to the users without any break-downs. The Committee are of the opinion that operation and maintenance of existing generating stations and transmission lines are equally if not more important and necessary than the expansion of generating capacity and it is imperative that adequate trained man power is available for this purpose. The Committee recommend that immediate steps should be taken by Government to assess realistically the requirement of trained engineers and technicians for the Fifth Plan when the generation of power is to be increased from about 20 million KW at the end of Fourth Plan to about 32 million KW in 1978-79—the generation of thermal power is estimated to be increased from about 12.5 million KW to about 24 million KW during the same period—and effective measures taken to provide training facilities for them by augmenting the capacity of the existing institutes and setting up more institutes for the purpose to the extent necessary. They apprehend that in case adequate steps are not taken in time in this regard, the non-availability of trained manpower for efficient and economic operation and maintenance, may become a major bottleneck in the achievements of targets of power generation, transmission and distribution in the Fifth Plan.

The Government share the anxiety expressed by the Estimates Committee in respect of paucity of technical manpower and training facilities/programme therefor. The action in hand has been submitted in the reply to Item No. 169 of para 8.87.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 5-11-1973]

Recommendations (S. Nos. 171 & 172) Paras 8.89 & 8.90

The Committee note that in foreign countries Hot Line maintenance techniques are being used for a long time which enable maintenance of lines and related equipment without de-energising and disrupting the power supply. They further note that two Hot Line Crew Centres—one at Bangalore and another at Ganguwal—were

set up by the Government after entering into an agreement with USAID. These centres, which started functioning in 1958, were closed in 1962 and 1965 respectively. The Committee note that there is a great demand from the State Electricity Boards for the trained personnel in the Hot Line Maintenance Techniques and that a proposal is under consideration for training employees on the new technique called 'Bare Hand Method' which is in vogue in Russia and to conduct refresher courses on the 'Hot Stick Method', which is in vogue in U.S.A.

The Committee cannot over-emphasise the usefulness of Hot Line Maintenance Techniques being adopted in the country on a large scale in view of the large expansion in the power system in the country and the advantages of the technique in carrying out maintenance without interrupting power supply. The Committee are unable to appreciate why the two centres were closed down after a brief period of 5 to 8 years. They would urge that Government should set up training centre/centres for imparting training in this new technique as early as possible so as to meet the needs of the State Electricity Boards and other bodies engaged in the operation and maintenance of power supply in the country.

Reply of Government

The two Centres were closed down mainly for the reason that, after training of a sufficiently large number of personnel from the State Electricity Boards, the State Electricity Boards did not sponsor adequate number of candidates for training at the Hot Line Crew Centres. This Ministry, however, fully share the view of the Estimates Committee and feels that it is necessary to revive the Centres for proper maintenance of transmission lines and related equipment without de-energising and disrupting the power supply. The Government are already considering early revival of the Hot Line Crew Training Centres.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 4-12-1973].

Comments of the Committee

The Committee would like to be apprised of the final decision taken in the matter.

Recommendation (S. No. 173 Para 8.91)

The Committee further note that Government have been proposing since 1970-71, to set up a 'Load Despatch Training Institute for training in Load Despatch technique'. They note that the location

of the institute, which was originally to be set up at Roorkee, has been changed to Bangalore. They regret to note that the Institute has not yet been completed although Load Despatching Stations are expected to come into operation during 1974. The Committee would like Government to take expeditious measures to set up this institute at an early date so as to make trained personnel available by the time load despatching stations go into operation as they are stated to be the principal tool for stabilising power generation and getting most economical power available at any time.

Reply of Government

The Load Despatch Training Institute commenced work in May-June, 1972, in rented premises and four batches of engineers have been trained so far. The UNDP have also agreed to provide the institute with certain sophisticated equipment like simulators which will be housed in a permanent building to be constructed.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 5-11-1973.]

Recommendation (S. No. 175 Para 8.93)

The Committee have noticed that there are frequent power interruptions which cause considerable loss to production both in industry and agriculture, apart from causing inconvenience to general users. They would, therefore, like the Government to impress upon the State Electricity Board, who are mainly responsible for operation and maintenance of power generation and for keeping the transmission lines working. It should also be impressed upon those Boards to provide in job training to their technicians and engineers and should prescribe tests so that the persons who are manning the generation plants and operating and manning the transmission lines, maintain their efficiency which would result in reducing the interruption in power supply to the barest minimum. There should also be courses for maintenance of equipment as a slackness in this regard is the main cause of interruption in power supply.

Reply of Government

The observations of the Committee have been noted and have been brought to the notice of all State Electricity Boards. Importance of preventive maintenance and establishment of adequate routines therefor has been stressed. The need for training for satisfactory maintenance work has been recognised and some State Electricity Boards/undertakings have organised training facilities. Con-

sidering the large needs in this regard in the coming years, the Centre is also considering creation of such facilities. As submitted in response to para 170-171 (item 8.88 and 8.89) of the Committee's Report, training facilities for O & M of thermal power plants and hot-line work on transmission lines are being augmented/revived.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Recommendation (S. No. 176 Para 8.94)

The Committee would like to emphasise that the Power Economy Committee, appointed by Government which submitted its report in March, 1971, has made several valuable suggestions regarding the training of personnel for manning power generation stations and operation and maintenance of transmission lines. They would like the Government to take expeditious decisions on these recommendations and implement them without delay.

Reply of Government

The suggestions contained in the Power Economy Committee Report have been brought to the notice of all State Electricity Boards. The Boards are having their own training programmes and also utilising the facilities available in the country for the training of personnel for operation and maintenance of power stations.

After training of sufficiently large number of personnel in the two Hot Line Crew Training Centres, the Centres were closed some time back. At the request of some States the question of restarting hot line training centres is under active consideration of the Government.

Also the training facilities being given at the Centre are proposed to be expanded.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Recommendation (S. No. 177 Para 9.12)

In the coming years there is no doubt that the requirements of the electrical energy in the country will continue to increase exponentially for many years. In other words, the installed capacity available in the country will have to be increased very rapidly so that the capacity is doubled in every 5 to 6 years. This will necessitate a great deal of activity of planning as well as project execution. Further, the increasingly bigger power systems of the States

will have to be knit into regional power systems and coordinated and integrated operation of regional power systems brought about. The working of the power stations, sub-stations, transmission lines as well as construction of power projects will have to be watched carefully and monitored in order to ensure that the limited resources of the country, allocated for power, are utilised in the best possible way. The centre will have to be involved in the power supply industry more and more actively through central generations as well as through integrated operation of power systems on the regional/national basis. Marshelling of resources by way of plant and equipment, essential materials like steel and cement as well as supply and transport of coal and oil fuels for running power stations will be largely the responsibility of the Centre. The Committee, therefore, feel that it is absolutely necessary that early steps are taken to see that the set up at the Centre is rationalised and, if necessary strengthened so that this big task can be adequately tackled.

Reply of Government

The Government fully support the observations|recommendations of the Estimates Committee in this behalf. The present structure for the economic growth of the country. Government may some *ad hoc* modifications have been made thereafter. With the large scale growth needed in coming years and the emergence at Regional and National grids, restructuring of the Industry has become imperative as pointed out by the Estimates Committee. Legislation is necessary for the purpose and Electricity being a concurrent subject in our Constitution, the States have to be consulted. The new structure will have to meet our needs for at least the coming 2—4 decades. In view of these important considerations, the matter is already being examined at the highest level in the Government and necessary further steps will follow soon.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 5-11-1973.]

Comments of the Committee

The Committee would like to be apprised of the final decision taken in the matter.

Recommendation (S. No. 178 Para 9.13)

In view of the consideration mentioned in the preceding paragraph and in view of the importance of power as a basic infrastructure for the economic growth of the country. Government may

examine the desirability of splitting up the Central Water and Power Commission into two separate Departments and combining the Power Wing with Central Electricity Authority.

Reply of Government

The suggestion of the Estimates Committee is noted.

This matter is, *inter alia*, actually under consideration as a part of the proposals mentioned in the reply to item No. 177 (para 9.12).

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 5-11-1973.]

Recommendation (S. No. 179 Para 9.39)

The Committee note that the Central Electricity Authority which was required to perform some highly important functions such as developing a sound and uniform power policy, coordinate the activities of the power Planning agencies and carry out investigations and collect and publish data, concerning generation, distribution and utilisation of power and development of power resources, has so far been working only in name and as a part-time body with a part-time Chairman. These functions have by and large devolved in the Central Water and Power Commission.

Reply of Government

The Committee's observations have been noted and have been kept in view in working out proposals for restructuring of the Electricity Supply Industry.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 180 Para 9.40)

The Committee also note that the Central Water and Power Commission (Power Wing) which was set up primarily as high-level consultant body to function at the request of States and other Organisations has no statutory authority for carrying out investigations which, according to the power Economy Committee, is the biggest bottleneck in the implementation of economic plans.

Reply of Government

The Committee's observations have been noted and will be kept in view in working out proposals for restructuring of the Electricity Supply Industry.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 181 Para 2.41)

Power for its development depends on a number of other vital sectors such as mining and transport of coal for thermal stations, manufacture of heavy electrical and ancillary stations, ready availability of materials like cables, steel, aluminium, cement etc. This involves coordination with various agencies including the Planning Commission, the Ministries of Industrial Development, Steel, Railways, Department of Mines etc. apart from coordination with the State authorities who are primarily responsible for generation, transmission and distribution of power within the States. The Committee have already observed the shortfalls all along in the augmentation of generating capacities on account of a number of factors such as delay in supply of equipment, non-availability of essential materials like coal, cement etc. in adequate quantities, want of proper planning and coordination etc. Unless such coordination is very effective, it is bound to result in delays leading to power shortage conditions. There is, therefore, urgent need for a single agency at the Centre which should be responsible for such effective coordination.

Reply of Government

The observation of the Committee has been noted and will be duly taken into account in the restructuring of the power supply industry. Even without waiting for the emergence of a single apex agency at the Centre a number of inter-ministerial arrangements have been set-up and have been found to be effective. The planning of coal supply is being done by the Standing Coal Linkage Committee, and the day-to-day operations regarding supply and transport of coal are monitored and directed by the Control Room set up in the Railway Board. Representatives of Railways and Department of Mines have been included in the Planning Commission's Advisory Committee on Power, Irrigation and Flood Control, for ensuring coordinated planning of coal supply and transport right

from the stage of sanctioning of Power Projects. The Group of Ministers on Power considers problems of Power Sector at the highest level and sorts out any difficulties.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Recommendation (S. No. 182 Para 9.42)

Apart from effective coordination, it is also necessary to formulate at the Central level, a National Power Policy and prepare long term plans for power development extending over a period of at least 15—20 years as power generation schemes and also schemes for mining of coal, manufacture of equipment etc. have long gestation of periods of over five years. The Committee feel that for this purpose also, there should be at the Central level a strong technical organisation.

Reply of Government

The observations of the Committee have been noted. There is already general agreement as regards the need for preparation of long-term plan for power generation extending over a period of at least 15 to 20 years. The need for a strong technical organisation at central level is accepted. Necessary action for setting up an appropriate Organisation at the Centre is a part of the proposals for re-structuring of the power supply industry which are under active consideration.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Recommendation (S. No. 183 Para 9.43)

The Committee note that there is a general consensus that these functions could be performed by the Central Electricity Authority already provided for in the Electricity (Supply) Act, 1948. The Committee also note that the Government are actively considering the proposal for activation of Central Electricity Authority and for this purpose they propose bringing in new legislation. In view of the pivotal role proposed for this body the Committee feel that the Authority should be activated with all the necessary powers at the earliest.

Reply of Government

The Committee's observations have been noted and will be kept

in view in working out proposals for restructuring of the Electricity Supply Industry.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973.]

Recommendation (S. No. 184 Para 9.54)

The State Electricity Boards have to play, a pivotal role in the generation and distribution of power in their States. As the Power Economy Committee have aptly pointed out in their Report of 1971, the State Electricity Boards would have to undertake intensive investigation and planning for power projects and would also have to undertake the executive work of completing these additional power projects in time. The State Electricity Boards have also to ensure that transmission lines are in position well in advance of the generation of power, so that power can be taken to the consumers as soon as it is generated. The Committee stress that the working of State Electricity Boards should be got reviewed urgently by a high-powered Committee in consultation with State Governments and the Electricity Board, with a view to strengthening their technical and managerial capabilities, so that these are commensurate with the challenging tasks which are being entrusted to them. The Committee need hardly point out that the head of the State Electricity Board should invariably be a power engineer as he has to provide technical guidance at all stages of investigation, execution and implementation to ensure that the power programme as per Plan, is adhered to. The Committee have been greatly disturbed at the spate of strikes and widespread unrest which has been reported in the Press, about the Electricity Boards. This obviously points to the fact there is a great deal of scope for improving the personnel management and ensuring that rules and regulations are properly framed and implemented, so as to inspire the confidence of all concerned.

Reply of Government

The observations of the Committee have been noted. Some of the State Governments have already appointed High Power Committees for reviewing the working of their State Electricity Boards with a view to strengthening the technical and managerial capabilities.

In regard to the observations of the Committee that the head of the State Electricity Board should invariably be a power engineer, it is submitted that this matter is entirely under the purview of the State Governments who would, no doubt, take into account all the various factors in appointing an appropriate person to head the State Electricity Boards.

The observations of the Committee regarding Personnel Management of the State Electricity Boards are also being communicated to the State Governments as this matter is also entirely under their purview.

Working of the State Electricity Boards and other related matters are also under consideration at the Centre in connection with the re-structuring of the Electricity Supply Industry. The factors mentioned by the Committee are kept in view while evolving proposals for restructuring of State Electricity Boards.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 4-12-1973].

Recommendation (S. No. 185 Para 9.55)

Another aspect which has greatly exercised the mind of the Committee, concerns the stores purchases, particularly transmission lines. The Committee feel that as these purchases would have to be made on a larger and large scale in keeping with the ambitious plan programme, detailed guidelines to ensure purchases on sound lines and in a manner which would be free from all suspicion, should be laid down.

Reply of Government

The Committee's observation has been noted. CWPC(PW) have already drawn up a Material Management Manual for the State Electricity Boards. This has been circulated to the State Electricity Boards for adoption in their working.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 4-12-1973].

Recommendation (S. No. 186 Para 9.56)

Another aspect of wide public interest relates to the grant of concessional rates on *ad hoc* basis. The Committee feel that since most of the Electricity Boards have acute financial difficulties, it is but right that broad guidelines for grant of such *ad hoc* concessions should be laid down, in consultation with the Finance and Audit Departments and that where an executive authority desires a concessional rate to be given, the communication should invariably be sent in writing. The Committee feel that if these objectives are followed in letter and spirit it would lift the State Electricity Boards from the present state of controversy in which they have fallen and would enable them to provide the leadership which would be necessary for meeting the challenging task of generating and distributing power as per plan provision.

Reply of Government

Observations of the Committee have been noted. On the basis of the recommendations of the Venkataraman Committee and in view of the need for improving the financial position of the Electricity Boards, guidelines have already been communicated to State Governments and State Electricity Boards saying that "the Boards should supply power normally at rates not lower than those which provide for operation and maintenance cost, depreciation and interest charges and some margin of profit". It has been indicated that "in regard to the rate of supply of power to electro-chemical and metallurgical industries, the margin of profit should be reduced to a suitable level, but in any case the rate should not be lower than what can meet the cost of operation, maintenance and depreciation, and interest charges". The States have also been requested that all proposals for concessional high tension tariff should be referred to the CWPC. On the advice of the CWPC, the Ministry of I & P will then give its advice on the feasibility of the proposals, if necessary, in consultation with other Ministries. This matter is being further pursued with the Boards/State Governments in specific cases as they arise.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973.]

Recommendation (S. No. 187 Para 9.57)

The Committee would further like to suggest that the provisions of the State Electricity Boards Act, 1948, may be comprehensively reviewed and necessary amendments which will improve the functioning of the State Electricity Boards, effected at an early date.

Reply of Government

The recommendation is accepted.

It is proposed to take necessary legislative action for amendment of Electricity (Supply) Act 1948 as a part of implementation of the proposals for restructuring of the Electricity Supply Industry. An expert Committee has been appointed specifically to take a comprehensive review of the financial working of the State Electricity Boards and to suggest necessary amendments in the Electricity (Supply) Act for improvement. The Committee's report is expected in another 2 months' time.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973].

Recommendation (S. No. 188 Para 9.71)

With the fast rate of growth in the demand for power—which, in the past few years has been doubling every five to six years requiring the greater magnitude of power development, the uneven distribution of energy resources among the political divisions of the country, the advent of nuclear power and advances in technology have led to a growing realisation that the State is no longer a convenient unit for planning power development and that there is need for change in the approach, so that the basis for planning is not the State but a Region formed of contiguous States. It is now well recognised that only through Regional and Inter-Regional planning would it be possible to ensure the implementation of the most economical schemes and to derive the maximum benefit from integrated operations. The Committee note that there is no organisation at present on the Regional level which can effectively plan and coordinate the diverse activities involved in rationalised power development. The Electricity (Supply) Act, 1948 does not envisage any Regional Organisation. Regional Electricity Boards which have been consulted since 1964-65 in all the five major Regions of the country, are purely advisory organisations of the States in the Region set up by resolutions of the Central Government. Since, however, the Electricity (Supply) Act, 1948 does not provide for the generation, transmission and distribution of power on a Regional basis supplemental legislation to make such Regional activities possible may have to be introduced. The Committee suggest that early steps should be taken to bring forth a suitable legislation with a view to give the Regional Boards Statutory recognition.

Reply of Government

The recommendation of the Estimates Committee has been noted and is kept in view in working out proposals for restructuring of the Electricity Supply Industry.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 2-11-1973].

Recommendation (S. No. 190 Para 9.73)

The Committee also note that even though funds for the construction of inter-State transmission links to promote integrated operation are provided by the Centre, the Centre has no control on the construction of these lines nor it is in a position to expedite their

construction, Consequently the neighbouring States which may be suffering from power shortage cannot avail of the surplus power in other States. The Committee, therefore, recommend that keeping in view these difficulties and also keeping in view the massive development of power required in future and the equally massive financial involvement of the Centre in future programmes, Government should take suitable statutory measures to make greater Central participation possible at regional levels.

Reply of Government

The reorganisation of the electric supply industry is under active consideration of the Government of India. In the proposals for the revised structure of the industry, the Centre, through the regional boards, will be called upon to undertake active participation in the working and progress of the electricity supply industry as a whole.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 2-11-1973].

Recommendation (Sl. No. 191, Para 9.77)

The Committee note that the suggestion for setting up an all India Service of Engineers is under consideration of Government in consultation with the State Governments. The Committee hope an accord in the matter will be reached soon and the State Governments will agree to the formation of this service in the overall interest of efficient set up in the key Sector of power.

Reply of Government

The observation of the Committee is noted. The matter of setting up an All India Service of Engineers is being pursued.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 2-11-1973].

CHAPTER III

RECOMMENDATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF GOVERNMENT'S REPLY.

Recommendation (Sl. No. 5, Para 2.26)

The Committee strongly feel that the whole estimate of the project was framed in a rather unrealistic manner. Low cost estimates are brought forward initially which ultimately not only prove inadequate but also result in delays in the execution of the projects. Unless this fact is recognised and better and more realistic estimates are prepared in the beginning, such delays are bound to occur. To avoid such situations, the Committee would like to stress the need for framing the estimates with a more realistic approach providing for annual escalations as far as possible so that the progress in the completion of the project is not held up for lack of funds.

Reply of Government

It is respectfully reiterated that there was no attempt at any stage to obtain sanctions on the basis of low, unrealistic estimates. It is not the practice to provide for any escalation in the estimates which are being framed for various works on the basis of the prevailing prices at the time of the preparation of the estimates. Provision of any future escalation in the estimates is likely to lead to higher tendered prices by the contracting parties and will ultimately result in higher ultimate cost of the work. Further, it is very difficult to anticipate the likely trends in price increases and even if an escalation is provided for, that itself may not be consistent with what may actually prevail at the time of execution of the work.

[Ministry of Irrigation and Power, O.M. No. 26(46)/73-E.L.I. dated 2-11-1973].

Recommendation (Sl. No. 13, Para 2.51)

The Committee note that the Baira Siul Hydro Project and the Loktak Hydro Electric Project are other instances where due to unrealistic estimates framed initially there had been steep rise in the costs of the projects. In the case of Baira Siul Hydro Project the escalation in the cost was expected to be Rs. 20.11 crores whereas in the case of Loktak Hydro Electric Project the rise in the cost was expected to be Rs. 13.04 crores.

The Committee have already emphasised the need for a more realistic approach in framing the estimates keeping in view the likely annual escalation in the costs so that there was smooth execution of the projects and the projects were not held up for lack of finances. The Committee feel that the whole system of scrutinising the original estimates framed by the various agencies might be reviewed and guide-lines laid down with a view to streamlining the procedure to ensure that the estimates were framed on a more realistic basis based on the actual contracts.

Reply of Government

The observations of the Estimates Committee have been noted. As already submitted earlier, the continuous increase in the costs of labour, materials and plant and equipment is a major factor in the escalation of costs of these and other projects. Nevertheless there is need for preparation of realistic estimates and close scrutiny of these before sanction is accorded. C.E.A. have already prepared a Manual containing guidelines for carrying out investigations in a thorough manner and preparation of reports and estimates with adequate details. This has been circulated to the State Governments/Electricity Boards/other project authorities. The system of scrutinising the estimates is also being reviewed with a view to streamlining the procedure.

As regards framing of the estimates keeping in view the annual escalation of costs, it is submitted that the rules laid down by the Government do not permit provision for future cost escalation. This could also lead to higher rates being quoted by tenderers.

[Ministry of Irrigation and Power, O.M. No. 26(46)/73-E.L.I,
dated 4-12-1973].

Comments of the Committee

The final action taken to streamline the procedure as a result of reviewing the system of scrutinizing the estimates may be intimated to the Committee.

Recommendation (Sl. No. 31, para 3.51)

The Committee recommended that having regard to the serious power shortage in the country, power should be given the highest priority next only to the operational needs of defence in the matter of allocation of funds and essential raw materials like steel, cement, coal etc. in the interest of economic development of the nation.

Reply of Government

Within the financial and other constraints, power is being given a very high priority. This has also been communicated to the Planning Commission, Ministry of Steel and Mines and the Ministry of Industrial Development.

[Ministry of Irrigation and Power, O.M. No. 26(46)/73-E.L.I., dated 2-11-1973].

Recommendation (Sl. No. 62, Para 3.150)

The Committee have elsewhere in this Report commented upon the delay in the delivery of main equipment by HEIL/BHEL as well as civil works which alone resulted in shortfall to the extent of 3.25 MKW during the Fourth Plan.

Reply of Government

In the initial period of development of Bharat Heavy Electricals Ltd./Heavy Electricals (I) Ltd., there have been certain delays mainly due to the fact that skills in the indigenous plants were in the process of being built up. These were more pronounced only in the case of Hydel Plants. Every endeavour is now being made to maintain deliveries of equipment as committed.

A number of steps have also been taken to forestall any possible delays in the Project construction programme as explained in response to paragraph Nos. 24(3.44), 27(3.47) and 40(3.60).

Experience all over the world has however indicated that some delays are not uncommon in the completion of complex engineering projects involving a large number of agencies as for the power projects. The planning has therefore to provide a certain margin in the targets for slippages.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973].

Recommendation (Sl. No. 93, Para 4.64)

The Committee cannot too strongly emphasise the need for putting to full use the hydro-electric power of the country, as it is well known that hydel power is the cheapest to generate. Besides, with the Progress in the development of the national grid, it should be possible to transmit the power in a wider areas. The country has also got experience extending to several decades in regard to the investigation and execution of hydel projects. The Committee,

therefore, suggest that a time-bound programme should be drawn up for harnessing in full the hydel power resources in the country.

Reply of Government

The available hydro resources in the country are not uniformly distributed and the coal reserves are located in certain States only. Hence in the process of continuous planning for power development over a long period of time, it is essential to plan a most economic pattern of development taking into account the available resources in relation to proximity of the demands and the optimum, hydro-thermal mix. Subject to these considerations it is accepted that hydro electric power development must be maximised, and requisite provisions will be made in the long term prospective plan accordingly.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated, 5-11-1973].

Recommendation (Sl. No. 130, Para 6.14)

Consistent with the policy of Government to promote the uplift of weaker sections of the people, the Committee would suggest that Government should examine the question of supply of electricity to the weaker sections of the rural population including agriculturists and artisans, backward classes and industrially backward areas at concessional rates.

Reply of Government

The cost of distribution of electricity in rural areas is considerably higher than that of urban areas but the tariff for rural loads in rural areas is generally kept low with a view to promoting the development of rural areas. Besides, irrigation pumping loads are given a priority over other categories of loads in case there is shortage of power.

During the Silver Jubilee year of India's Independence, it was programmed to electrify at least one Harijan/Tribal basti a day. The progress in this regard was more or less satisfactory.

The R.E.C. is giving loan assistance to provide street light facilities in Harijan/Tribal bastis at concessional terms.

A total provision of over Rs. 1000 crores for Rural Electrification programme has been proposed during the Fifth Plan.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 4-12-1973].

Recommendation (Sl. No. 132, Para 7.37)

The Committee regret to note that although 80 per cent of the population of India live in villages and provision of electricity is an essential prerequisite for the development of rural areas and can bring far reaching changes in the economy of these areas, very little was done in the First Three Five Year Plans for rural electrification with the result that till the end of Third Plan, only 45,409 villages out of total of 5,66,878, that is, about 8 per cent were electrified and only 3,20,096 tube-wells/pumpsets were energised throughout the country. It was only in the Three Annual Plans of 1966—69 and the Fourth Five Year Plan that the programmes of rural electrification has picked up. The Committee note that even now only 23.4 per cent of the villages in the country have been electrified and only 18,76,188 tube-wells/pumpsets energised. The Committee recommend that a time bound programme of rural electrification should be prepared by the Government which while fixing a long term programme for providing power to every village of the country, should fix a target date for providing electricity to each and every village having a specific number of resident. The Committee recommend that sufficient funds should be provided in the Five Year Plans and implementation machinery at the field level should be geared up to achieve targets fixed.

Reply of Government

As the programme of rural electrification is formulated and executed by the State Governments/State Electricity Boards, the recommendations of the Committee have been brought to the notice of the State Governments/State Electricity Boards.

The progress of rural electrification is dependent on various factors viz., availabilities of power, transmission and distribution net work in rural areas, terrain, resources, organisational set up, etc. and availability of funds. It is, therefore, not practicable to prepare a time bound programme fixing a target date for electrification of every village in the country. The total number of villages in India is 5,66,878. Out of these 3,51,653 villages have a population of less than 500. At the beginning of the planned development of the country in 1951, only 3,061 villages had been electrified. Considerable progress has been made since then in rural electrification and the progress is being accelerated from Plan to Plan. At the end of Third Plan the number of villages electrified was 45,144. During the three years' period 1966—69, 28,578 villages were electrified bringing the total number to 73,722 at the beginning of the

Fourth Plan. During the Fourth Plan this is being doubled and the number of villages electrified has already reached 1.4 lakhs. This tempo is proposed to be maintained during the Fifth Plan.

Priority is being given to electrification of villages with a higher population in order that maximum coverage is obtained. With this end in view a long term plan has already been drawn up for the Decade 1971—81 under which it is proposed to electrify 3.4 lakhs villages by 1981. It is envisaged in this programme that villages with a population of 500 and above should be electrified by 1981. 50 per cent of the villages with a population less than 500 should also be electrified by that time. By doing so, it is estimated that 90 per cent of the rural population can be benefitted by 1981. During the Fifth Plan a special programme called the Minimum Needs Programme covering rural electrification is also proposed to be taken up. This is to ensure that 30—40 per cent of rural population will be covered in each State by rural electrification.

Considering the magnitude of the problem and the large size of the country the aim is to cover as much of the ground as possible in the minimum possible time but it is not practicable to plan for the electrification of all the villages in the country within the decade 1971—81. Nor is it possible at this stage to lay down a time bound programme by fixing target dates for electrification of every village in the country as explained above.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 2-11-1973].

Recommendation (Sl. No. 144, Para 7.49)

The Committee note that the Government had set up a Committee of Members of Parliament to review the programme of rural electrification in backward areas. The Committee of Members of Parliament had submitted their Report in July, 1972. The Committee however, note that in their Report, the Committee of Members of Parliament had pinpointed that the main reasons for the comparatively slow progress of rural electrification in backward States is lack of adequate financial resources to take up programme and development and extend high tension transmission lines. This Committee had recommended that a provision of additional Rs. 46.5 crores in the Fourth Plan should be made for the purpose. The Committee recommend that the above recommendations of the Committee of Members of Parliament should be implemented as early as possible.

Reply of Government

During the Fourth Plan, the Rural Electrification Corporation was provided with an outlay of Rs. 150 crores representing Rs. 45 crores as contributions from the Government of India and Rs. 150 crores from U.S. Funds. The Corporation has so far sanctioned 532 rural electrification schemes for State Electricity Boards and one scheme each for five rural electric co-operatives set up in the country. The total loan amount sanction is Rs. 274.38 crores. These schemes which are scheduled for completion over a period of three to five years envisages electrification of 47,470 villages. Special loans to the extent of Rs. 2.0 crores has been provided during the current year for electrification of Harijan basties.

The Rural Electrification Corporation which provides additive finances to the State Electricity Boards from Central Sector for implementation of their rural electrification programme has introduced a special category of loan for extension of high tension transmission net works in the backward states. The Corporation have sanctioned 16 such schemes of the different State Governments as per details below:—

Name of State	No. or schemes	Amount (in lakhs)
Bihar .	2	Rs- 113.68
Orissa .	5	317.52
Rajasthan	3	171.70
Uttar Pradesh	2	125.23
West Bengal . . .	4	284.69

More schemes will be sanctioned by the Rural Electrification Corporation as and when these are sponsored by the State Electricity Boards.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Recommendation (Sl. No. 145, Para 7.50)

The Committee further note that the Committee of Members of Parliament had observed that under-developed hilly track specially in Assam, Uttar Pradesh and Chhota Nagpur in Bihar have special problems and should be given special concession by

The Rural Electrification Corporation so that a longer period may be given for the schemes to earn the desired return. The Committee hope that necessary action will be taken in the matter.

Reply of Government

The Rural Electrification Corporation has introduced a special category of loan for extension of electricity to especially under developed hill, tribal and desert areas. This envisages a relaxation in the name of viability and liberalises further the terms and conditions of the loans to meet the long term gestation requirement of the development schemes designed for such areas. The schemes have to give a return of 3½ per cent only at the end of 20 years. The loan period is also the longest—30 years with following interest rates:—

First 10 years .	41½ percent
11 to 15 years .	5½ percent
16 to 20 years	53½ percent
21 to 25 years	7½ percent
26 to 30 years .	8½ percent

with a moratorium on repayment of principal in first five years.

The Corporation has already sanctioned 34 schemes upto 31st August, 1973, as per details given below:—

Sl. No.	Name of State	No. of schemes	Amount (Rs. in lakhs)
1	Bihar	1	42.15
2	Himachal Pradesh .	10	483.18
3	Jammu & Kashmir .	11	470.94
7	Madhya Pradesh	2	95.22
5	Maharashtra .	2	54.98
6	Meghalaya	1	24.45
7	Orissa	1	25.72
8	Rajasthan	1	59.81
9	Uttar Pradesh	5	262.03
TOTAL.		34	1,458.48

More schemes would be sanctioned by Rural Electrification Corporation as and when these are received by them from the State Electricity Boards, and found acceptable on scrutiny.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 2-11-1973].

Recommendations (Sl. Nos. 153 and 154) Paras 8.25 and 8.26

The Committee note that realising the importance of research, Government appointed a High Powered Planning Committee in 1955 to consider establishment of a Central Organisation to undertake applied research in the various fields of power engineering. As a result of the recommendations of this Committee, a memorandum was presented in 1959 to the United Nations Special Fund seeking assistance for power Engineering. Research Organisation. Sanction for the establishment of the Power Research Institute was accorded in the year 1960. The two units of this Research Institute one at Bangalore and the other at Bhopal started functioning in October, 1971. The Committee regret to note that some work is still to be completed at the two units of the Institutes which would be done by 1974. According to the latest information furnished to the Committee, Government envisaged a period of 12 years for the setting up and commissioning of the two units of the Research Institute. The Committee note that various periods have been indicated by Government for the completion of the Institute. In the annual Reports of the Institute for 1971-72, the project was to be completed by 1965-66. In the Annual Reports of the Ministry for the years 1968-69 and 1969-70, the period of completion and commissioning has been given 'by the end of 1969-70' and 'by the end of 1970-71' respectively.

The Committee cannot help feeling that the work relating to the setting up of the institute was not given the urgency that it deserved. The Committee consider that a period of 12 years for the setting up of the Institute is too long. Considering that the matter regarding the setting up of Institute was initiated in 1955 it is regrettable that the two units of the Research Institute are yet to be fully completed and commissioned.

Reply of Government

The observations of the Estimates Committee are noted. It is submitted that the correct position is as follows:—

According to the Plan of Operations signed with the UNDP on

15th January, 1960, the project was to be completed in a period of 12 years. The executing agency was the UNESCO and the period of completion was fixed by the UNESCO based on the funds that could be made available by UNDP. Accordingly, all the laboratories of the institute which were to be equipped with foreign machinery, instruments etc. have been completed within the period stipulated. The only items left over are the staff quarters and the Tower Testing Station, which do not require any foreign exchange. These will be completed during the current year.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 5-11-1973].

Recommendation (S. No. 155) Para 8.27

The Committee are concerned to note that the second stage of the Institute which is stated to be very important from the point of view of testing plant and equipment manufactured in the country and which is estimated to cost about Rs. 550 lakhs has not commenced at all, though it was to be completed by March, 1974. They would like the Government to investigate the reasons for delay in commencing the second phase of the Research Institute and take concrete measures to complete the same expeditiously.

Reply of Government

The Second stage of the Institute relates mainly to expansion of the Switchgear Testing Station and addition of certain equipment to existing laboratories. The project could not be commenced earlier for want of resources for financing of the imported components. The UNDP assistance has now been agreed to for this proposal and the project will be completed during the Fifth Plan.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
5-11-1973]

Comments of the Committee

The Committee feel that with greater foresight and timely efforts the delay in the expansion of the Switchgear Testing Station could have been considerably reduced if not altogether eliminated.

Recommendation (S. No. 160) Para 8.43

The Committee stress that highest priority should be given to the problem of heavy losses in transmission of power as these are of crucial importance in the setting up of the proposed national grid and in extending the programme of rural electrification. The Com-

mittee would also like priority to be given to the question of finding the most economic size of generators and other equipment suited to Indian conditions.

Reply of Government

Regarding transmission losses, reply under para 5.72 to 5.79 (Sl. Nos. 118—125) may kindly be seen.

As regards the most economic size of generators, the indigenous manufacturers, viz. BHEL and HEIL, are producing standard sizes of thermal generating sets, namely 55 MW, 110 MW, 120 MW and 200 MW. The larger sizes are more economical and these are being utilised for different projects. The next larger size of generating unit would be 500 MW, which is planned to be used in the proposed Supper Thermal Power Stations. The question of standardisation and variety reduction for obtaining techno-economic benefits is constantly kept in view. The matter has been reviewed every five years in the past as, with the growth of power system, the acceptable rating and performance characteristics change.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I.
dated 5-11-1973].

Recommendation (S. No. 174) Para 8.92

The Committee were informed by an eminent non-official that there are no Standard 'Codes of Practice' available to the operating staff manning the power generating stations. The Committee feel that for efficient maintenance of power generating stations and to ensure uninterrupted supply, it is very necessary that Standards "Codes of Practice" are readily available to the operating staff for reference and guidance. The Committee cannot too strongly emphasise the need for bringing out a Standard Code of Practice expeditiously by associating eminent, experienced and technically qualified engineers in its preparation.

Reply of Government

It is submitted that codes of practice for safety in operation and maintenance of generating plant, transmission and distribution system etc. have already been brought out by Central Water and Power Commission for guidance of the State Electricity Boards/ Undertakings. Standard "Codes of Practice" for efficient and correct maintenance of individual items of equipment have been prepared under the auspices of the Indian Standards Institution by Committees with representatives of manufacturers, research Institutes, users and eminent technologists. This is a continuing work as the Codes have

to be constantly up-dated to take into account new designs of plant and equipment and technological developments. These Codes supplement the detailed instructions usually issued by the manufacturers and suppliers of equipment in respect of operation and maintenance.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

Recommendation (Sl. No. 189) Para 9.72

The Committee note further that there is a tendency on the part of States which have surplus power, to charge unduly high rates for the supply of electricity to their less fortunate neighbours. This also inhibits inter-State collaboration. Since the existing statutes make no provision for the regulation of inter-State transfers or sales of electricity by the Central Government, such transfers and sales are taking place on a bilateral basis or through the good offices of the Central Government. Without such regulation, the States which have surplus power, enjoy strong bargaining power *vis-a-vis* their neighbours who suffer from power shortage. The Committee suggest that the Central Government should initiate necessary legislation to regulate on rational basis inter-State transfer or sales of electricity.

Reply of Government

The observations of the Estimates Committee have been noted.

Inter-state power exchanges have normally to be based on bilateral arrangements between concerned States which vary in complexity depending on a number of factors such as sources and costs of power in each State, their needs, future prospects, etc. Guide-lines for agreements for Inter-State power exchanges, suggested by the Power Economy Committee have been circulated to the States and the Regional Electricity Boards have been engaged in bringing about suitable agreements between States. It is believed that agreements based on common understanding reached in the Regional Electricity Boards will be more appropriate and lasting than what can be achieved by legislation. Moreover, owing to widely different situations obtaining in different cases, it does not appear very practical to legislate in the matter; there is also likely to be difficulty in regulating such transactions between States by law. It is, however, expected that with the Centre playing an increasingly active role in generation, construction and operation of inter-State lines and load despatch, it will be possible to bring about the results desired by the Estimates Committee.

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973]

CHAPTER IV **RECOMMENDATIONS IN RESPECT OF WHICH REPLIES OF** **GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE** **COMMITTEE**

Recommendation (S. No. 18) Para 2.61

The Committee further note the Projects/Schemes in various regions pending approval of the Planning Commission. The Committee cannot appreciate the slow progress in according the approval by the Planning Commission as most of these projects were accepted by the Advisory Committee more than a year ago. The Committee would urge that necessary steps should be taken to finalise these projects expeditiously.

Reply of Government

Observations of the Committee has been brought to the notice of Planning Commission and they are contemplating to accord sanction to all projects required to yield benefits during the Fifth Plan Period, by the end of this year.

[Ministry of Irrigation and Power O.M. No. 26(46)/73-E.L.I. dated 2-11-1973].

Further information called for by the Committee

Please intimate if the projects have been finalised.

[Lok Sabha Sectt. O.M. No. 5|13|1|ECII|73, dated 1-1-1974].

Further Reply of Government

The Statement showing the latest position of the schemes included for benefit during the Fifth Five Year Plan is enclosed.

Latest position of the Project which have been included for benefits during the Fifth Plan.

Name	of Region	State	Name of the Projects	Target in 5th Plan MW	Remarks
1	2	3	4	5	
Northern Region	Punjab	Shanan	Hydro Extn.	30	The inter-State aspects have to be resolved before according the sanction of these projects.
		Anandpur Sahib		2775	Do.
		U.B.D.C. Extn.		45	Do.

1	2	3	4	5
		Mukerian H.E. Scheme	14	The scheme is being recast.
	Himachal Pradesh	Bassi Extn. C Hydro)	15	The inter-State aspects have to be reported before according the sanction of these projects.
Western Region	Madhya Pradesh	Korba Thermal Extn. II	220	The project report has been received only recently and is under examination.
Eastern Region	Bihar	Patratu Thermal Extn. II	220	A new scheme approved by TAC awaiting the sanction by Planning Commission.
		Barauni Thermal Extn. II	110	Pending sanction because of Coal linkage.
		*Tenughat	200	Approval of Planning Commission awaited.
		*Durgapur Thermal Extn.	200	Approval of Planning Commission awaited.
		Bokaro Thermal Extn.	200	Revised project report for 2x 2110 MW is still awaited.
		Farakka Thermal	110	A new scheme for which project report is awaited.
North Eastern Region	Assam	Namrup Thermal Extn.	30	Approval of Planning Commission is awaited.
		Chandrapura Thermal	30	Revised Project report received recently and is under examination.

[Ministry of Irrigation & Power O.M. No. 32 (46) /73-E.L.I. dated 15-1-1974]

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Comments of the Committee

Please see paras 7 to 9 of the Report— Chapter I.

*At the time of the factual verification the Ministry of Irrigation & Power have intimated that these two schemes have since been sanctioned by the Planning Commission.

CHAPTER V

RECOMMENDATIONS IN RESPECT OF WHICH FINAL REPLIES OF GOVERNMENT ARE STILL AWAITED

Recommendation (Sl. No. 12) Para 2.33

It was also brought to the notice of the Committee that after the Board of Control have gone into various issues and come to a decision the communication of formal approval from the concerned Department/Ministries takes unduly long time. The Committee feel that since object of having senior representatives of various Ministries/Departments on the Board of Control is to facilitate decision making and to give them opportunities to know first and the background of the relevant issues involved, there should be no delay in issuing formal approval by the authorities concerned. The Committee would like Government at the highest level to review the existing procedure which is being followed in processing the formal references which are received from the project authorities in implementation of the decisions taken by the Board of Control with a view to streamline the procedure and cut out all delays. The Committee need hardly point out that where a matter needs further elucidation, this can best be done by either seeking comprehensive written information in order to dispose of the matter finally or by convening a meeting at a sufficiently high level to resolve and finalise the matter.

Reply of Government

“Suitable instructions have been issued for avoidance of delays in the matter of issue of formal sanctions/approvals by the Ministry for implementation of the decisions taken by the Board of Control. Proposals for streamlining the existing procedure for issue of formal sanctions in implementation of the decisions taken by the Board of Control are under consideration.”

[Ministry of Irrigation & Power O.M. No. 26(46)/73-E.L.I. dated 4-12-1973]

Further Information Called for by the Committee

Pleaded intimate if a final decision has been taken to streamline the existing procedure for issue of formal sanctions in implementation of the decisions taken by the Board of Control.

[Lok Sabha Sectt. O.M. No. 5|13|1|ECII|73—dated 1-1-1974].

Further Reply of Government

Proposal for streamlining the existing procedure is still under consideration.

[Ministry of Irrigation & Power O.M. No. 32(46)/73—E.L.I.
dated 15-1-1974].

Comments of the Committee

The Committee may be apprised of the final decision taken in the matter.

Recommendation (S. No. 17) Para 2.60

The Committee note that the scheme for expansion of Thermal Stations at Korba and Anarkantak has since been cleared by the Planning Commission. The Committee also note that other three projects viz., Bodhghat Project, Harinphal Hydel Project and Maheshwar Hydel Project in Madhya Pradesh are pending at various stages with the Ministry of Irrigation and Power. The Committee desire that the clearance of these projects may also be expedited by taking effective action in consultation with the State Governments and the Planning Commission.

Reply of Government

The 3 projects viz., Bodhghat, Harinphal and Maheshwar Hydel projects, the scheme reports for which were received from the Government of Madhya Pradesh involve inter-State aspects. The position with regard to their technical examination and clearance is indicated below:—

-
- (i) *Bodhghat (3x80 MW)*: This scheme is located in the Indravati Valley of the Godavari basin. The scheme report was examined by the CW&PC and their comments were forwarded to the Government of Madhya Pradesh in April, 1972. In response, the State Government have intimated that certain field works were required to be carried out by them before the required clarifications and additional details could be furnished. These details and clarifications are awaited by the C.W.&P.C.
 - (ii) *Harinphal hydro-electric project—Narmada basin (4x50 MW)*: While the scheme report was under examination by the C.W.&P.C., the Government of Madhya Pradesh in their letter dated 7th December, 1972 intimated that the question regarding submergence under the various levels of

the reservoir was being examined by them in details and that the State Government have decided that its FRL should be lowered from RL 455 to RL 420. The State Government are accordingly revising the project proposal and its estimate of cost. The modified scheme report is awaited by the C.W.&P.C. at present.

- (ii) *Maheshwar hydel Project—Narmada basin (3x40 MW)*: The scheme is proposed to be implemented under the Sixth Five Year Plan. The Ministry of Finance have observed that no useful purpose would be served in examining the estimates of cost at this stage because these would undergo considerable change on account of rising trend in the cost of labour, material etc. by the time the scheme is taken up for implementation. In the circumstances, the State Government have been requested by the C.W.&P.C. in October, 1972 to submit a modified scheme report.

[Ministry of Irrigation & Power O.M. No. 26 (46) /73-E.L.I. dated 2-11-1973].

Further Information called for by the Committee

Please intimate the specific action taken by Government to impress upon the State Government of Madhya Pradesh to expedite finalisation of the proposals with regard to Bodhghat and Harinphal project.

[L.S.S. O.M. D.O. 5|13|1|ECII|73, dated 1-1-1974].

Further Reply of Government

- (i) *Bodhghat H. E. Project*

The Government have addressed the Madhya Pradesh Electricity Board to expedite the investigations and submit the additional details requested for examining this scheme in all its aspects. These details and clarifications are still awaited.

- (ii) *Harinphal H.E. project, Narmada Basin*

The scheme was examined in the CW&PC and the Ministry of Finance and their observations have been communicated to the Government of Madhya Pradesh with the request that the report and estimates may be modified and brought up-to-date. The revised project report is still awaited.

[Ministry of Irrigation & Power O.M. No. 32 (46) /73-E.L.I. dated 15-1-1974].

Comments of the Committee

The Committee desire that Government may impress upon the State Government of Madhya Pradesh to expedite finalisation of the proposals with regard to Bodhghat and Harinphal projects.

Recommendation (S. No. 140) Para 7.45

The Committee would like to point out that there are a number of small and marginal farmers in the country who are not in a position to afford the cost of installation of tubewells or bear expenditure of its maintenance and operation, with the result that they have to remain at the mercy of big farmers for the supply of water for their fields. The Committee recommend that the Government should encourage such small farmers to form cooperatives and own tubewells on a cooperative basis. In case it is not found possible, the Government should instal State tubewells where necessary, in order to provide irrigation facilities and cater to the needs of the small and marginal farmers to the extent possible.

Reply of Government

The State Governments/State Electricity Boards have been requested to consider the recommendations.

[Ministry of Irrigation & Power O.M. No. 26 (46)/73-E.L.I. dated 2-11-1973]

Further Information called for by the Committee

Please intimate the final result of the action taken by the State Governments/State Electricity Boards regarding installation of tubewells for providing irrigation facilities.

[Lok Sabha Sectt O.M. No. 5|13|1|ECII|73, dated 1-1-74].

Further Reply of Government

The installation of the tubewells comes under the purview of the State Electricity Boards who have been addressed for compliance in this regard.

[Ministry of Irrigation & Power O.M. No. 32 (46)/73-E.L.I. dated 15-1-1974].

Comments of the Committee

The Committee would like to be apprised of the action taken by the State Governments in this regard.

NEW DELHI;
April 16, 1974

Chaitra 26, 1896 (Saka)

R. K. SINHA,
Chairman,
Estimates Committee.

APPENDIX I

(Vide Sr. No. 131—Para 7.36 of Chapter II)

IMMEDIATE

No. 42 (19) | 73-P.E.

GOVERNMENT OF INDIA

MINISTRY OF IRRIGATION AND POWER

SHRAM SHAKTI BHAWAN,

RAFI MARG, NEW DELHI.

Dated the 4th September, 1973.

To

SUBJECT:—*Recommendations made by the Estimates Committee (5th Lok Sabha) rural electrification in the 39th Report—Rural electrification.*

Sir,

I am directed to enclose herewith the summary of the recommendations relating to programme of rural electrification made by the Estimates Committee in their 39th Report (5th Lok Sabha) for your consideration and necessary action. The Committee has *inter alia* recommended the following:—

- (i) Time bound programme of rural electrification should be prepared for providing power to every village.
- (ii) Sufficient funds for rural electrification should be provided in the Five Year Plans.
- (iii) Proper priority should be given to the rural electrification and machinery at the field level should be geared up to achieve targets fixed.
- (iv) Steps taken and special assistance provided so far for rural electrification of backward areas have been far from adequate and would require to be further intensified and increased. Concrete measures should be taken in States which are below the All India average of village electrification in order to accelerate the pace of rural electrification.

- (v) Wherever schemes for the generation of power are initiated, effective measures should also be taken to lay transmission lines well in advance of such generation so that as soon as power is available, the transmission lines are also ready to distribute the power to the consumer.
- (vi) The provision of public lighting to the economically weaker sections of the society particularly in the Harijans and Adivasis areas and 'bastis' should be given special consideration.
- (vii) The programme of rural electrification should be coordinated with national and regional development plans so as to reduce imbalance in regional development and increase the consumption of power by rural people.
- (viii) Suitable maintenance repair and operational facilities for pumpsets and electric gadgets should be encouraged to be set up in rural areas. Facilities should be provided for training to local people in this to avoid dependence on outsiders.
- (ix) Small and marginal farmers should be encouraged to form cooperatives and own tubewells on a cooperative basis. In case this is not found possible the Government should be made to instal State tubewells where necessary, in order to provide irrigation facilities and cater to the needs of the small and marginal farmers to the extent possible.
- (x) A fixed percentage of power generated in a State should be earmarked for the rural areas and it should be ensured that rural areas get their proportional share of power even in case of reduction of power supply.
- (xi) Steps should be taken to supply power to agriculturists at the rates comparable, if not cheaper to the Industries.
- (xii) The rural electrification programme in the backward States should not be allowed to suffer because of shortage of funds.

I am to request that the above recommendations of the Committee may kindly be examined with a view to implement them. Action taken in the matter may please be intimated to this Ministry.

Yours faithfully,

Sd/-

RAMESHWAR NATH,

Under Secretary to the Govt. of India.

Copy forwarded to:—

- (i) EL-I Section with reference to their endorsement No. F.32(46)/73-ELI, dated the 18th May, 1973.
- (ii) EL-II Section.
- (iii) The Central Water & Power Commission, R.E. Deptt., New Delhi.
- (iv) Ministry of Agriculture, New Delhi, with particular reference to item No. (ix) above.

Sd/-

RAMESHWAR NATH,

Under Secretary to the Govt. of India.

Tel. No. 381257.

APPENDIX II

Analysis of action taken by Government on the Recommendations contained in the 39th Report of Estimates Committee fifth Lok Sabha)

1. Total No. of recommendations	191
2. Recommendations which have been accepted by Government (<i>vide</i> recommendation Nos. 1 to 4, 6 to 11, 14 to 16, 19 to 30, 32 to 61, 63 to 92, 94 to 129, 131, 133 to 139, 141 to 143, 146 to 152, 156 to 159, 161 to 173 175 to 188, 190 and 191 included in Chapter II)	
Number	172
Percentage to total	90%
3. Recommendations which the Committee do not desire to pursue in view of the Government's replies (<i>vide</i> recommendations Nos. 5, 13, 31, 62, 93, 130, 132, 144, 145, 153-155, 160, 174 and 189 included in Chapter III)	
Number	15
Percentage to total	8%
4 Recommendation in respect of which reply of Government has not been accepted by the Committee (<i>vide</i> recommendation No 18 included in Chapter IV)	
Number	1
Percentage to total	05%
5 Recommendations in respect of which final replies of Government are still awaited (<i>vide</i> recommendation Nos 12, 17 and 140 included in Chapter V).	
Number	3
Percentage to total	1.5%

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